

FIG.1

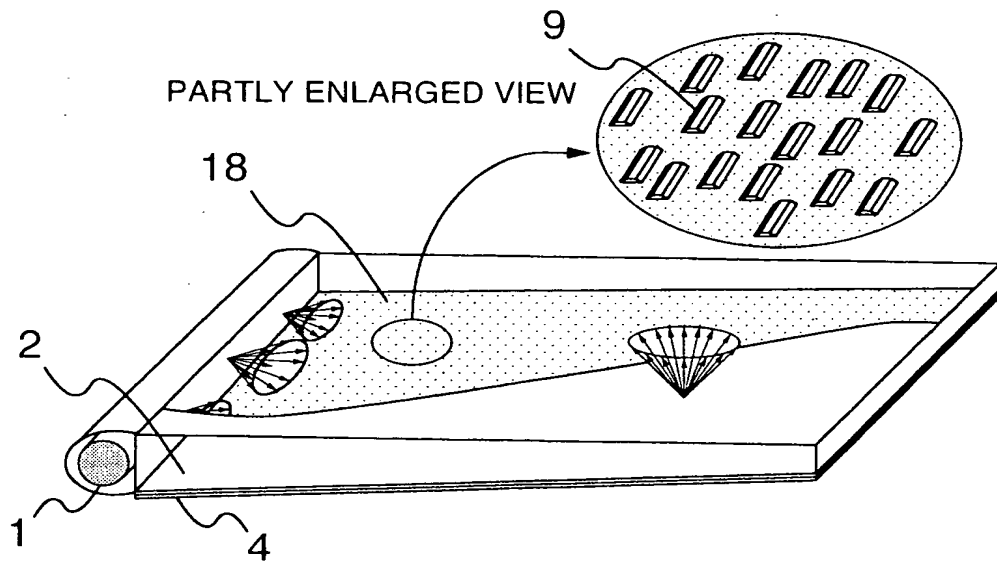


FIG.2

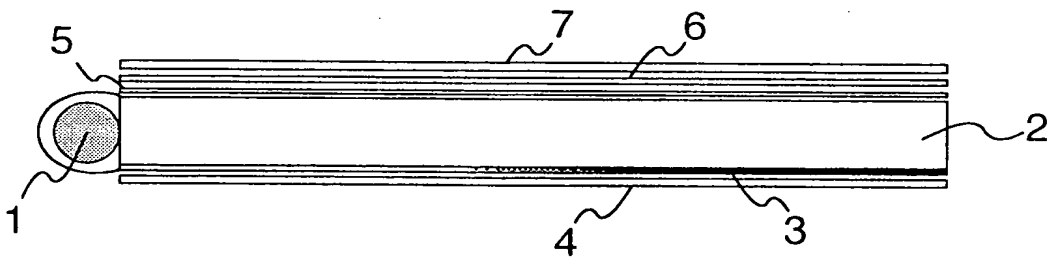


FIG.3

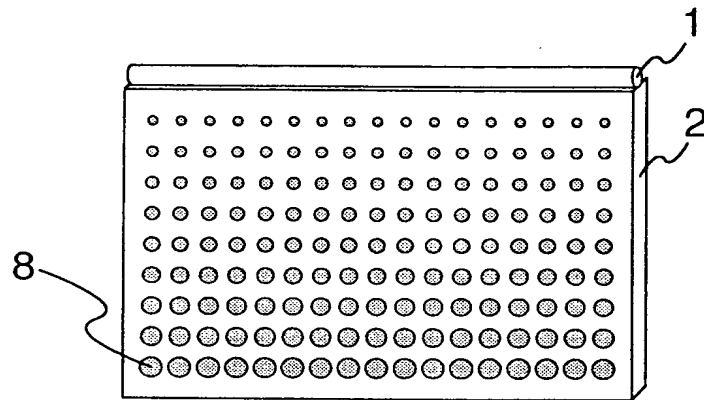


FIG.4

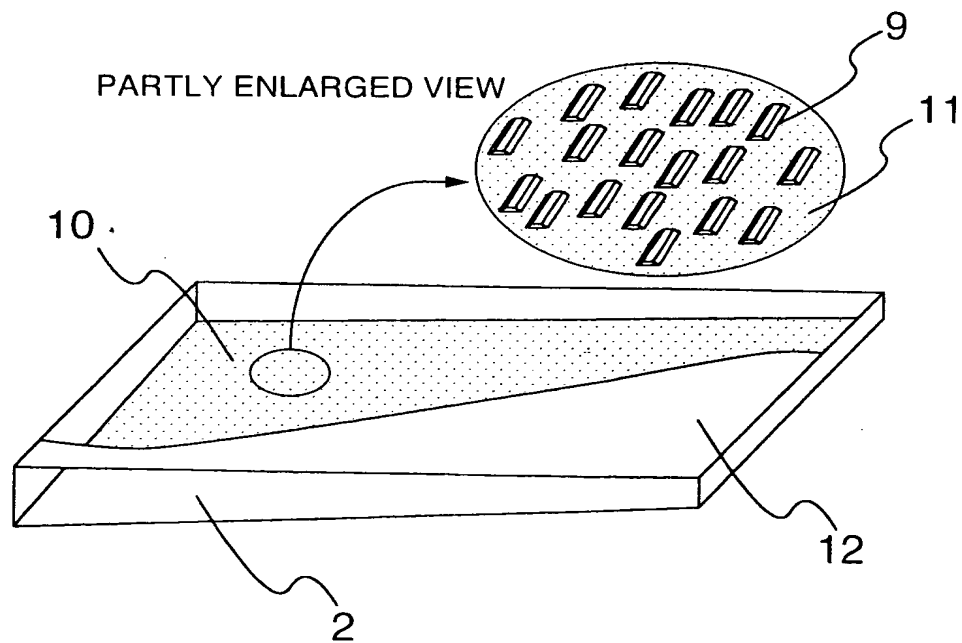


FIG.5

KIND OF DOT	SMALL PROJECTING PORTION OR SMALL RECESS PORTION		
	NO		YES
REFLECTING FILM			
ANGLE OF INCLINE OF INCLINED SURFACE OF DOT	7~43°	50~85°	30±10°
DISTRIBUTION OF ANGLES OF INCLINE OF INCLINED SURFACES OF DOTS	ANGLE OF INCLINE IS SMALLER AS CLOSER TO LIGHT SOURCE		
HEIGHT AND DEPTH OF DOT	2-100 $\mu$ m		
DISTRIBUTION OF HEIGHTS AND DEPTHS OF DOTS	HEIGHT AND DEPTH ARE LOWER AS CLOSER TO LIGHT SOURCE		
SHAPE OF FLAT SURFACE OF DOT	CIRCLE OR SUBSTANTIALLY RECTANGULAR SHAPE		
DISTRIBUTION OF DENSITIES OF DOTS	DENSITY OF DOT IS SMALLER AS CLOSER TO LIGHT SOURCE		
DISTRIBUTION OF SHAPES OF DOTS	AREA OF DOT IS SMALLER AS CLOSER TO LIGHT SOURCE AREA OF DOT IS SMALLER AS PORTION REQUIRES CONFUSION		
SIZE	$\leq 0.2$ SQUARE mm		
ARRANGEMENT OF DOT	RANDOM OR NON RANDOM IN CASE SHAPE OF FLAT SURFACE IS RECTANGULAR, ARRANGEMENT IS MADE SO THAT LONGER LINE IS SUBSTANTIALLY IN PARALLEL TO LIGHT SOURCE		
SUB MATERIAL	REFLECTING PLATE	REFLECTING PLATE	
	LIGHT CONDENSING PLATE (DIFFUSION PLATE)	(LIGHT CONDENSING PLATE) (DIFFUSION PLATE)	(LIGHT CONDENSING PLATE) (DIFFUSION PLATE)

FIG.6

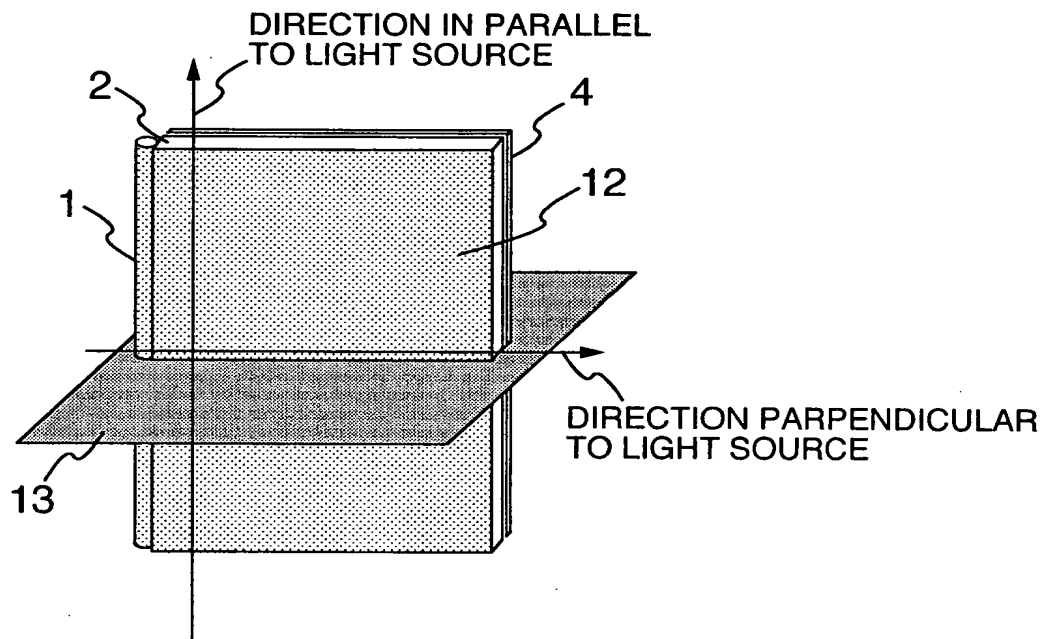
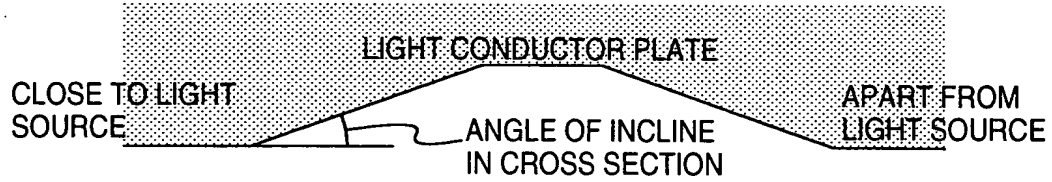
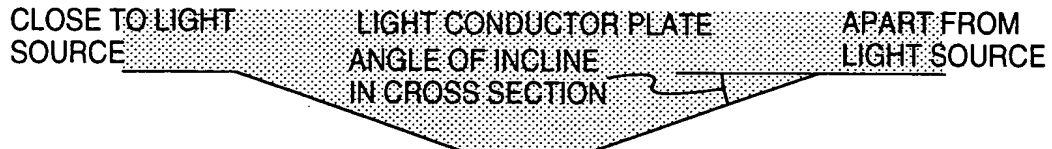


FIG.7A



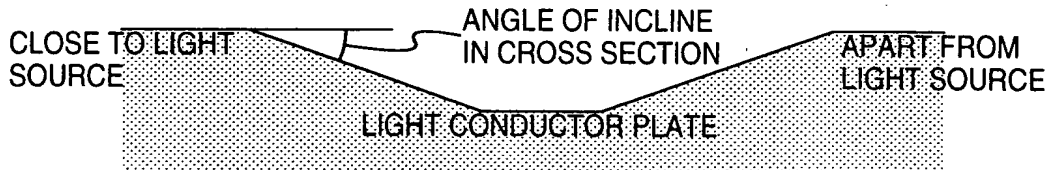
FIRST EMBODIMENT OF CROSS SECTIONAL  
SHAPE OF SMALL RECESS PORTION

FIG.7B



FIRST EMBODIMENT OF CROSS SECTIONAL  
SHAPE OF SMALL PROJECTING PORTION

FIG.7C



SECOND EMBODIMENT OF CROSS SECTIONAL  
SHAPE OF SMALL RECESS PORTION

FIG.7D



SECOND EMBODIMENT OF CROSS SECTIONAL  
SHAPE OF SMALL PROJECTING PORTION

FIG.8A

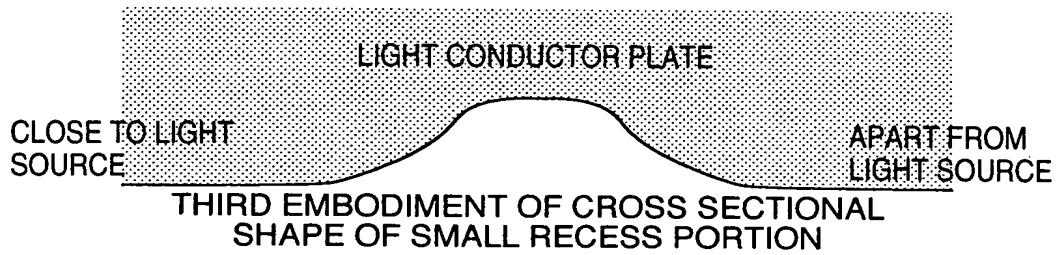


FIG.8B

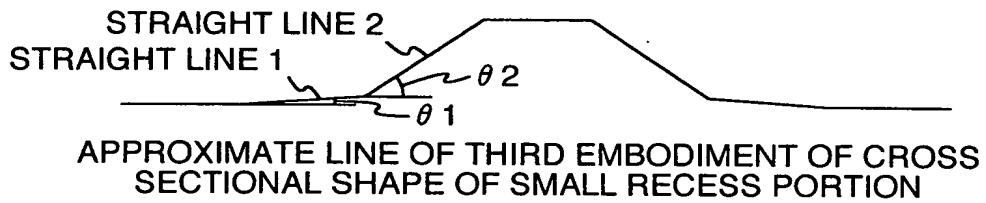


FIG.8C

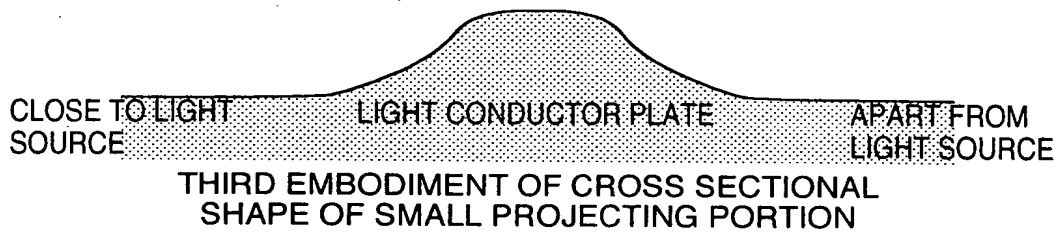


FIG.8D

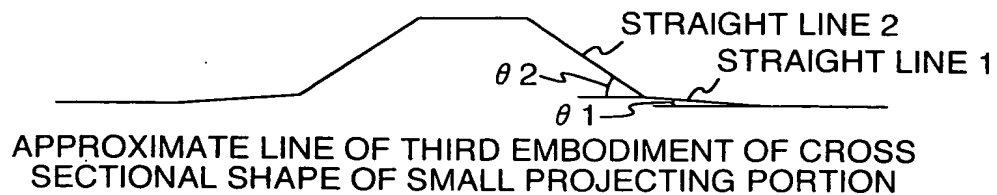


FIG.9A

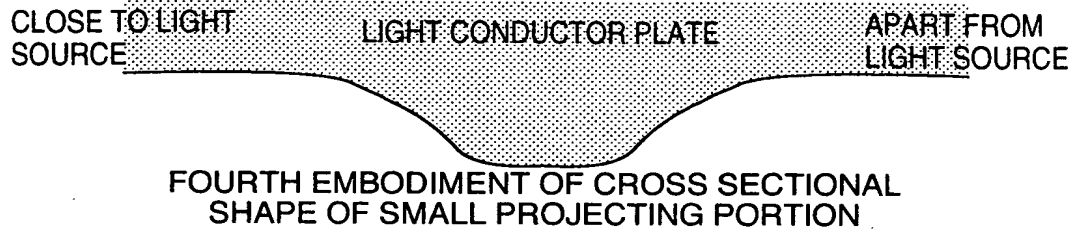


FIG.9B

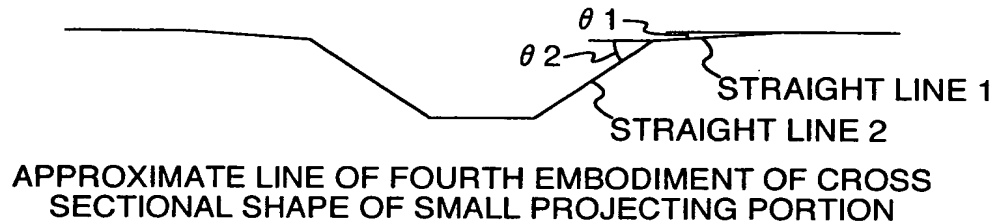


FIG.9C

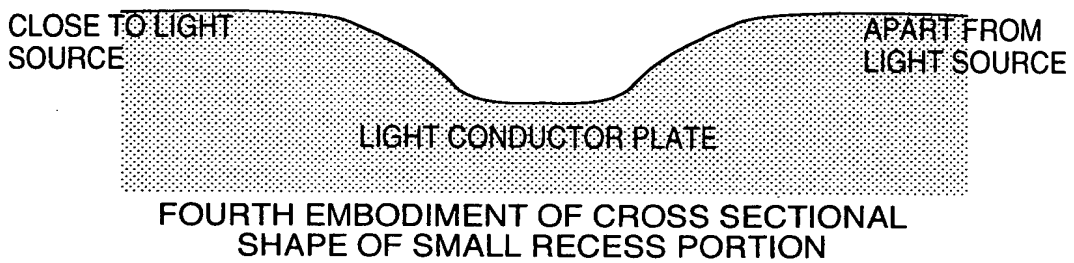


FIG.9D

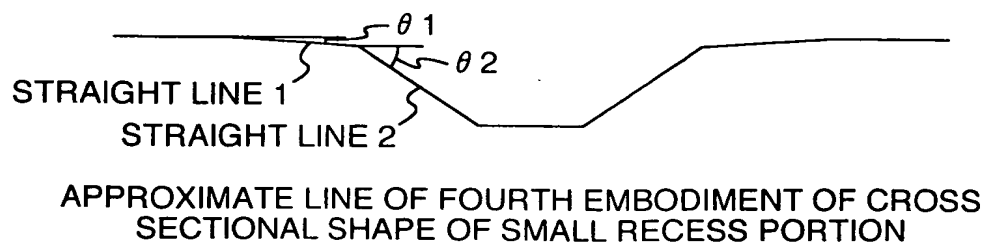


FIG.10A

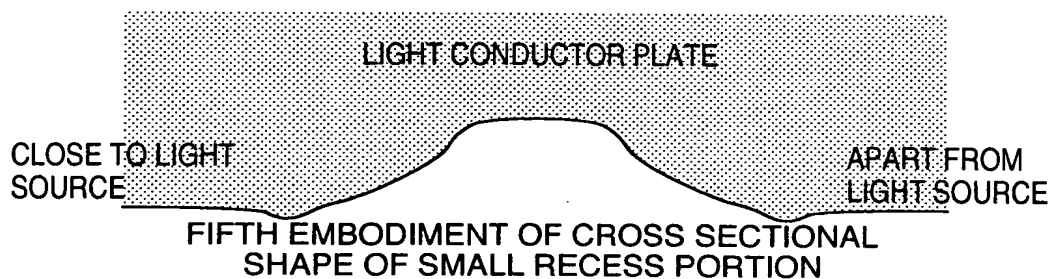


FIG.10B

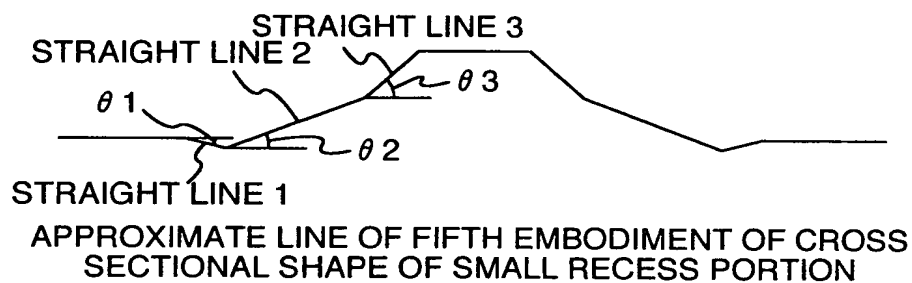


FIG.10C

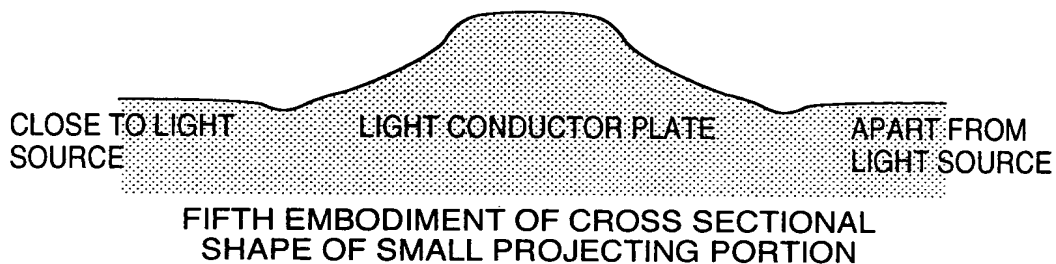


FIG.10D

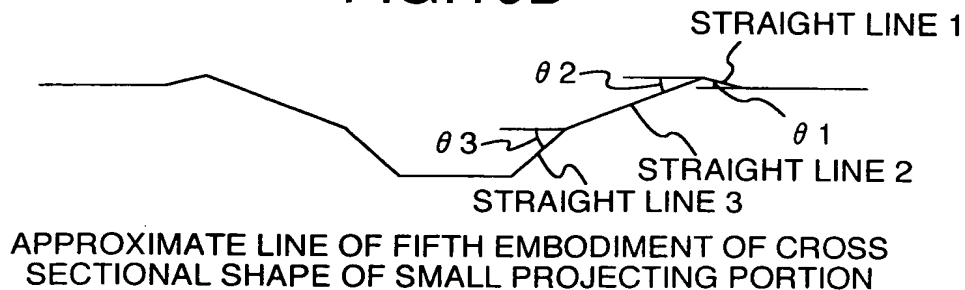




FIG.11A

EXPLANATORY VIEW NO.5 OF ANGLE OF INCLINE

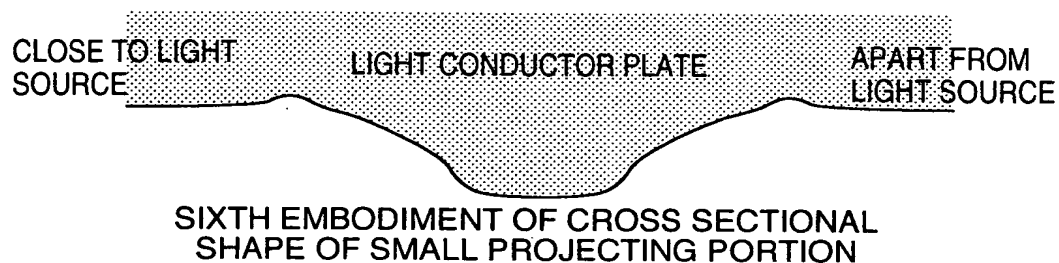


FIG.11B

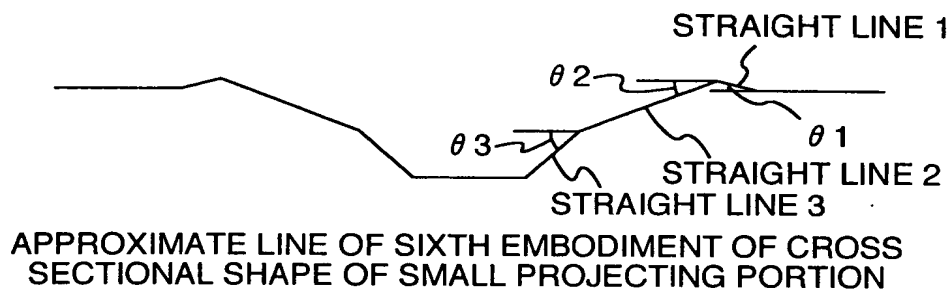


FIG.11C

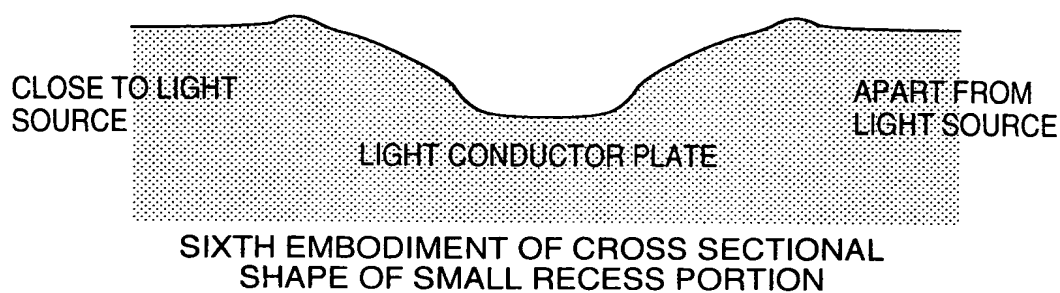


FIG.11D

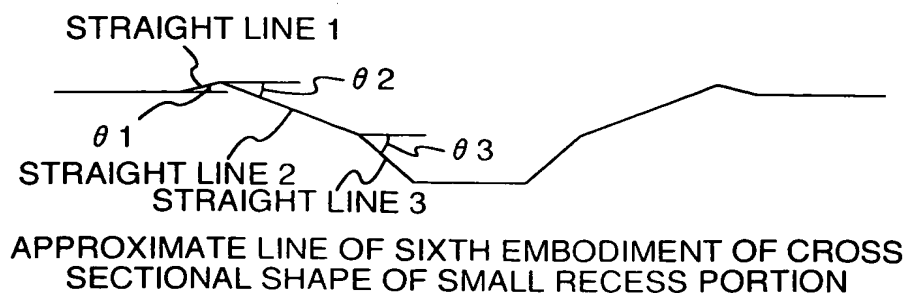


FIG.12A

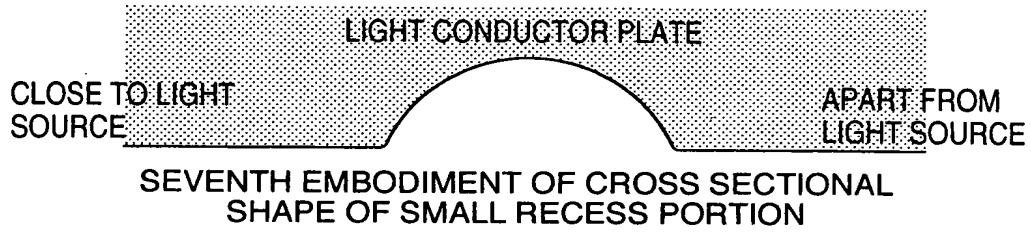


FIG.12B

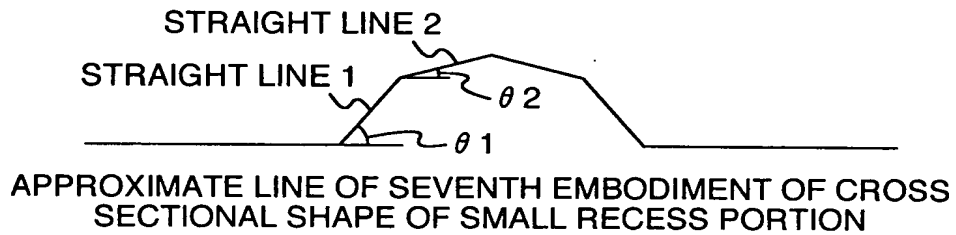


FIG.12C

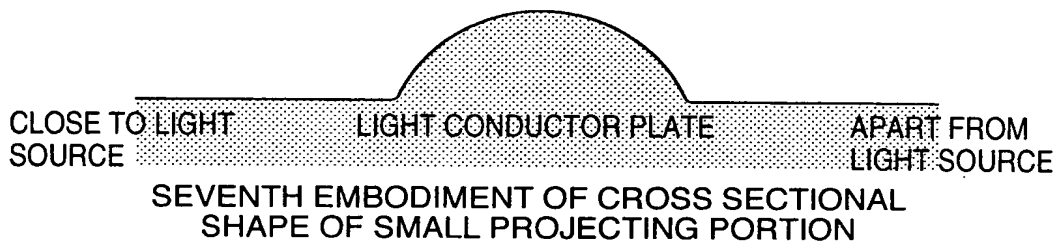


FIG.12D

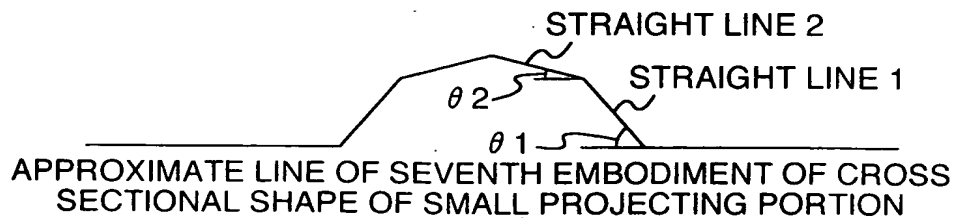
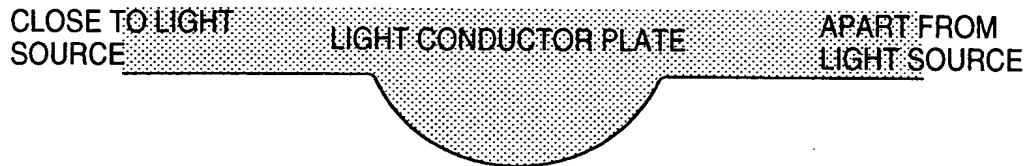
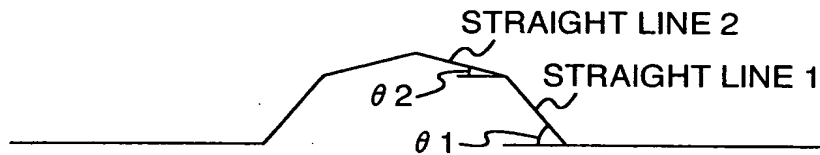


FIG.13A



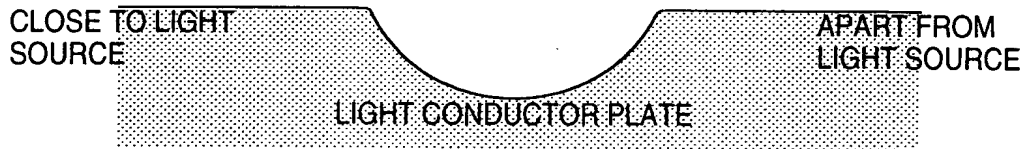
EIGHTH EMBODIMENT OF CROSS SECTIONAL SHAPE OF SMALL PROJECTING PORTION

FIG.13B



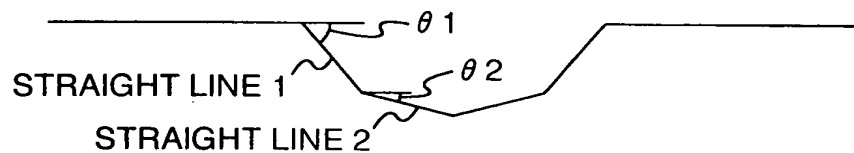
APPROXIMATE LINE OF EIGHTH EMBODIMENT OF CROSS SECTIONAL SHAPE OF SMALL PROJECTING PORTION

FIG.13C



EIGHTH EMBODIMENT OF CROSS SECTIONAL SHAPE OF SMALL RECESS PORTION

FIG.13D



APPROXIMATE LINE OF EIGHTH EMBODIMENT OF CROSS SECTIONAL SHAPE OF SMALL RECESS PORTION

FIG.14A

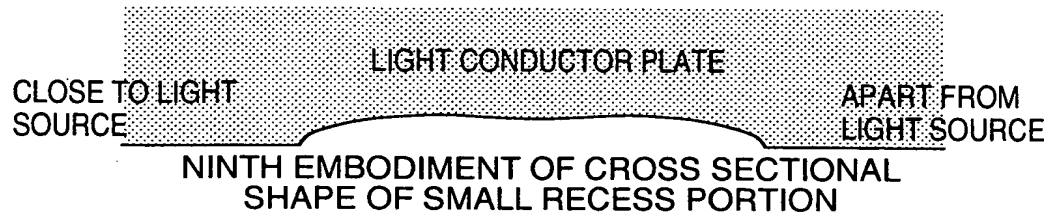


FIG.14B

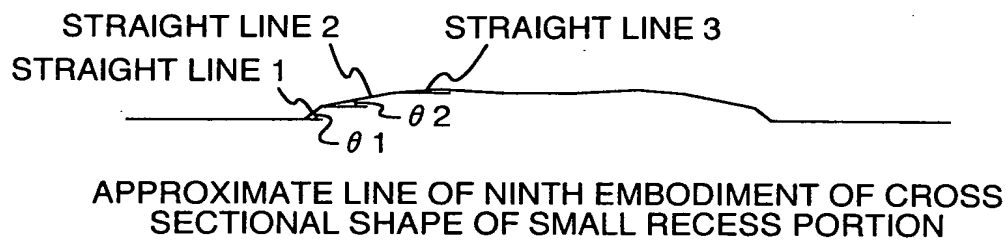


FIG.14C

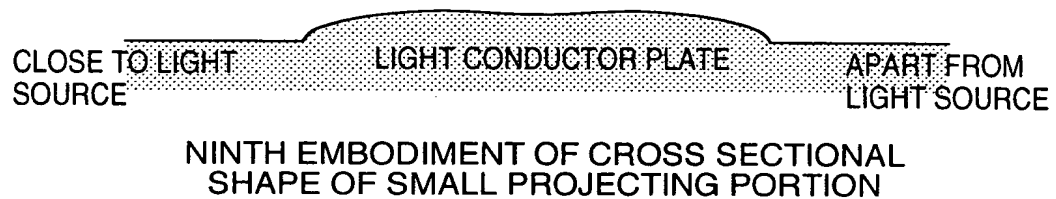


FIG.14D

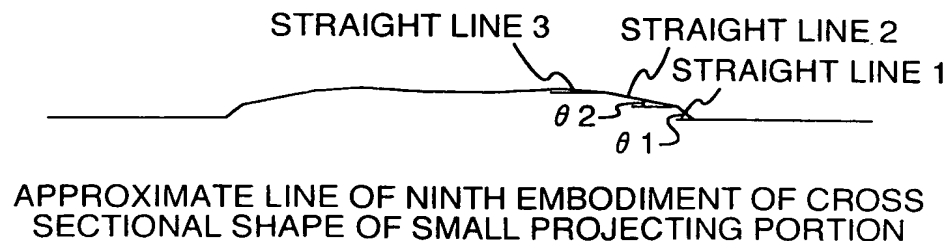


FIG.15A

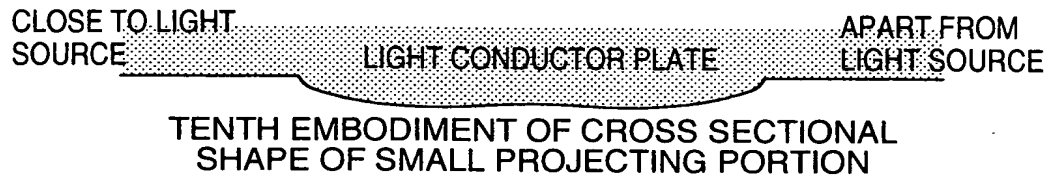


FIG.15B

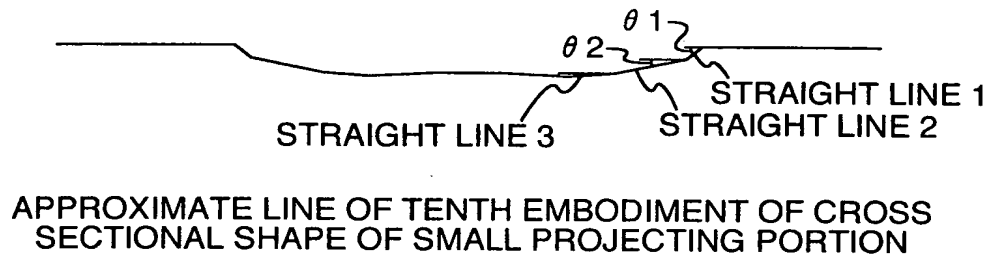


FIG.15C

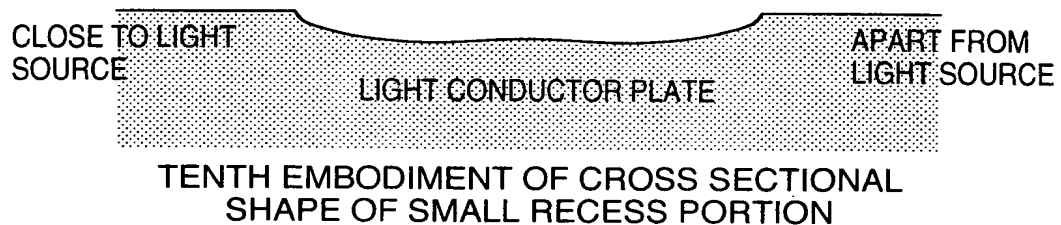


FIG.15D

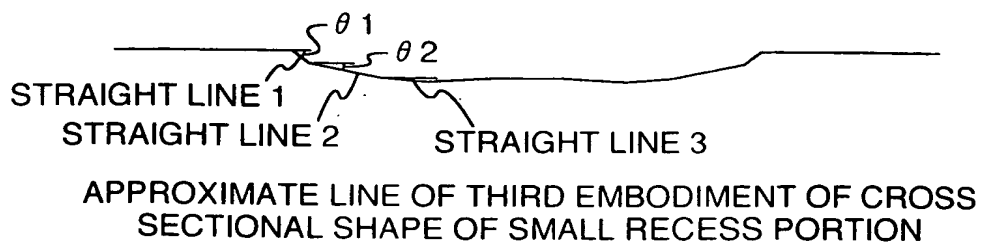


FIG.16A

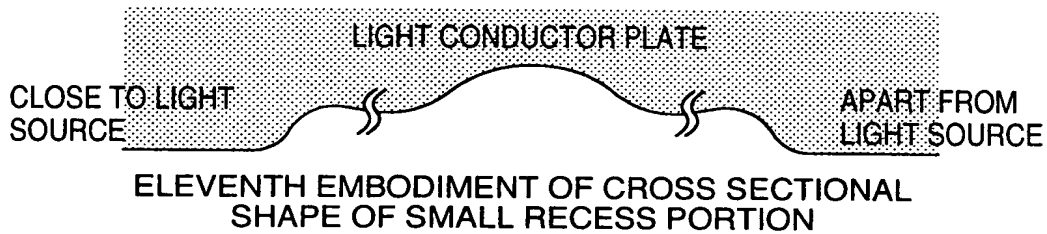
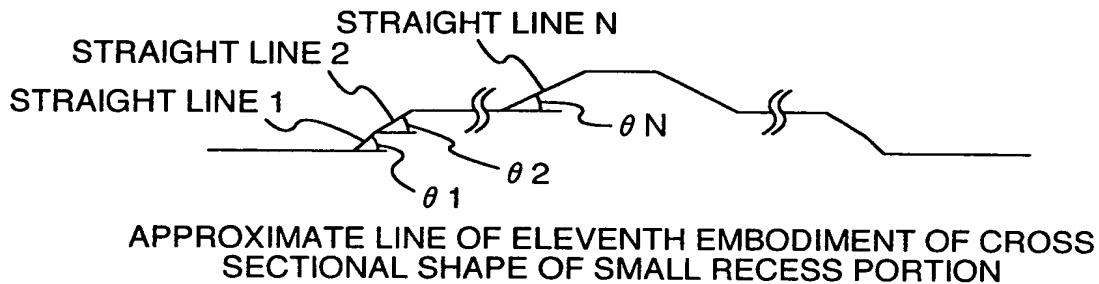


FIG.16B



$$\text{ANGLE OF INCLINE IN CROSS SECTION} = \frac{\sum_{n=1}^N \theta_n \times L_n \times \sin(\theta_n + \theta)}{\sum_{n=1}^N L_n \times \sin(\theta_n + \theta)}$$

$L_n$  = LENGTH OF STRAIGHT LINE  $n$

$\theta$  = VALUE DETERMINED IN ACCORDANCE WITH REFRACTIVE INDEX OF LIGHT CONDUCTOR PLATE  
ABOUT 18 DEGREES IS SUITABLE IN CASE OF REFRACTIVE INDEX OF LIGHT CONDUCTOR PLATE =  $1.47 \pm 0.1$

$$\text{ANGLE OF INCLINE IN CROSS SECTION} = \frac{\theta_1 \times L_1 \times \sin(\theta_1 + \theta) + \theta_2 \times L_2 \times \sin(\theta_2 + \theta)}{L_1 \times \sin(\theta_1 + \theta) + L_2 \times \sin(\theta_2 + \theta)}$$

$L_1$  = LENGTH OF STRAIGHT LINE 1

$L_2$  = LENGTH OF STRAIGHT LINE 2

$\theta$  = VALUE DETERMINED IN ACCORDANCE WITH REFRACTIVE INDEX OF LIGHT CONDUCTOR PLATE  
ABOUT 18 DEGREES IS SUITABLE IN CASE OF REFRACTIVE INDEX OF LIGHT CONDUCTOR PLATE =  $1.47 \pm 0.1$

FIG.17A

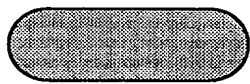


FIG.17B

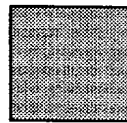


FIG.17C



FIG.17D



FIG.17E

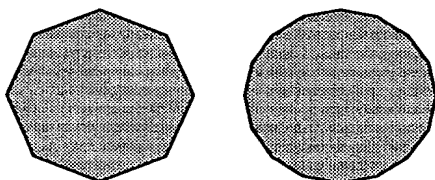


FIG.17F



FIG.17G

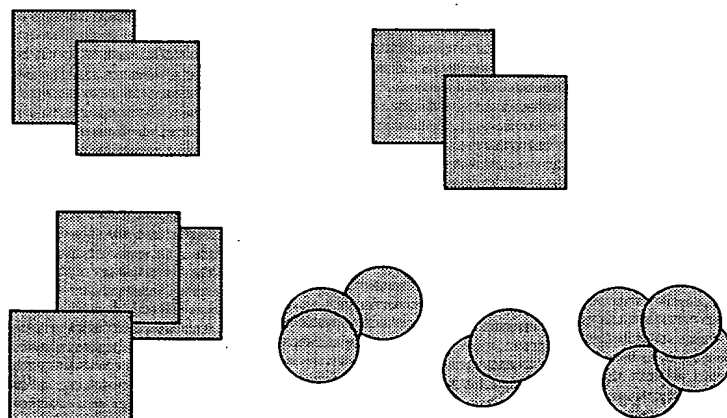


FIG.18

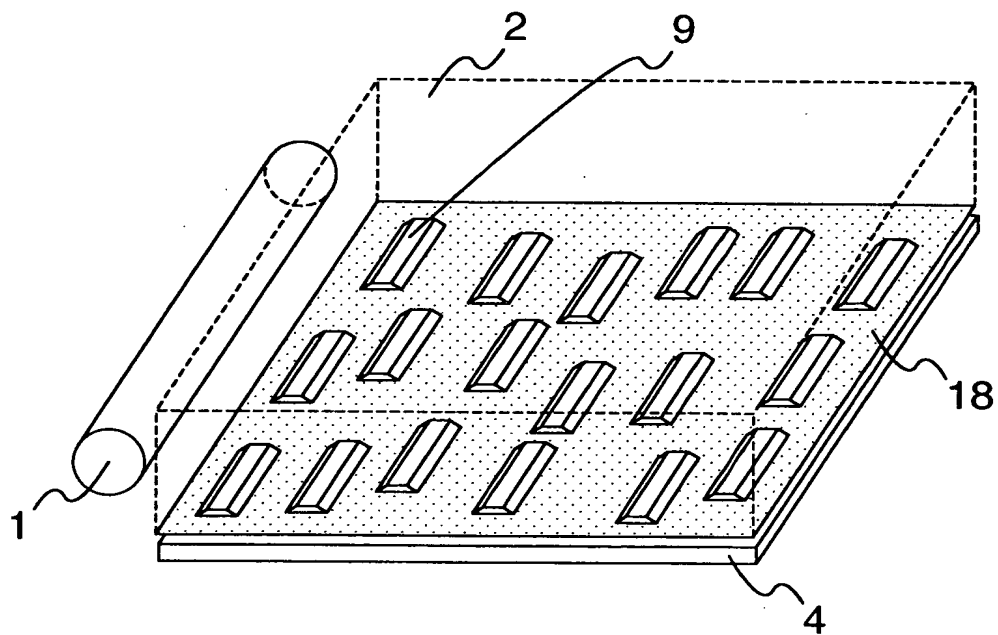




FIG.19

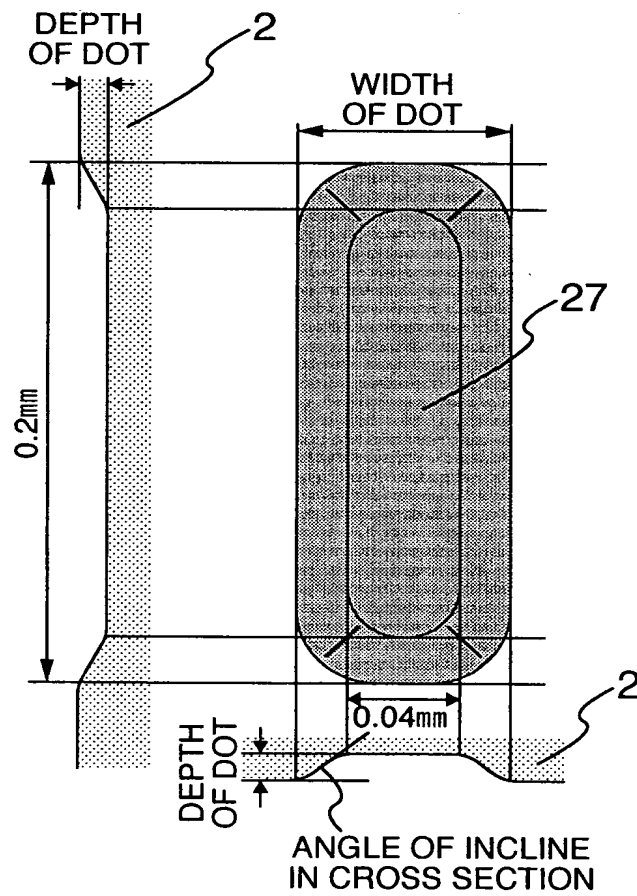


FIG.20

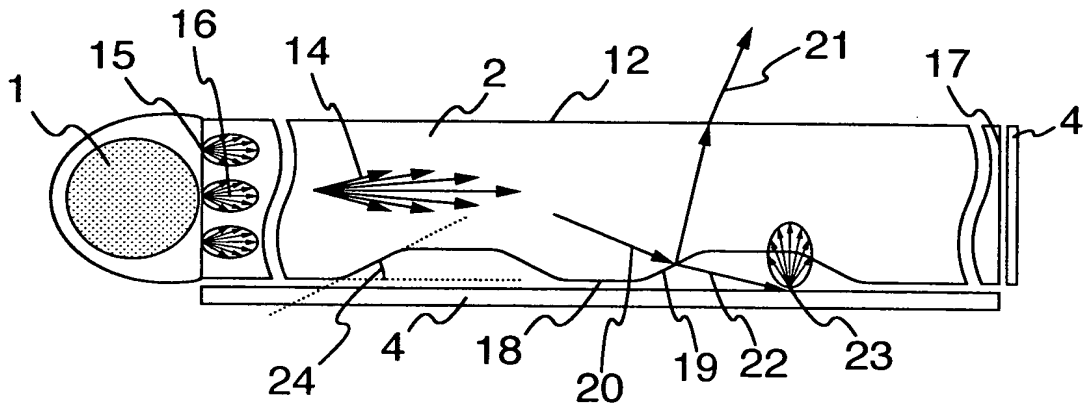
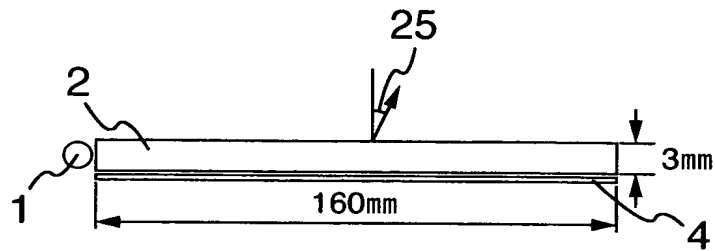
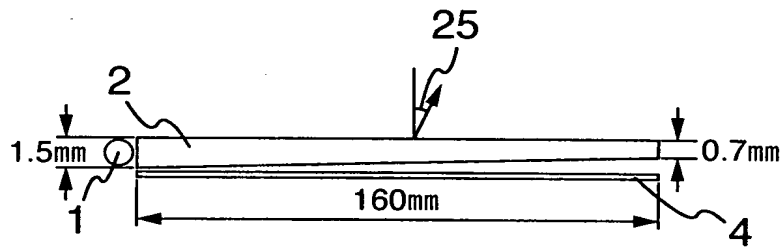


FIG.21A



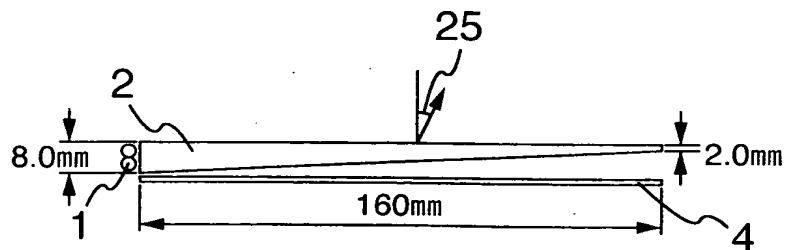
EMBODIMENT 1-1  
CROSS SECTIONAL SHAPE OF  
LIGHT CONDUCTOR PLATE

FIG.21B



EMBODIMENT 1-2  
CROSS SECTIONAL SHAPE OF  
LIGHT CONDUCTOR PLATE

FIG.21C



EMBODIMENT 1-3  
CROSS SECTIONAL SHAPE OF  
LIGHT CONDUCTOR PLATE

FIG.22

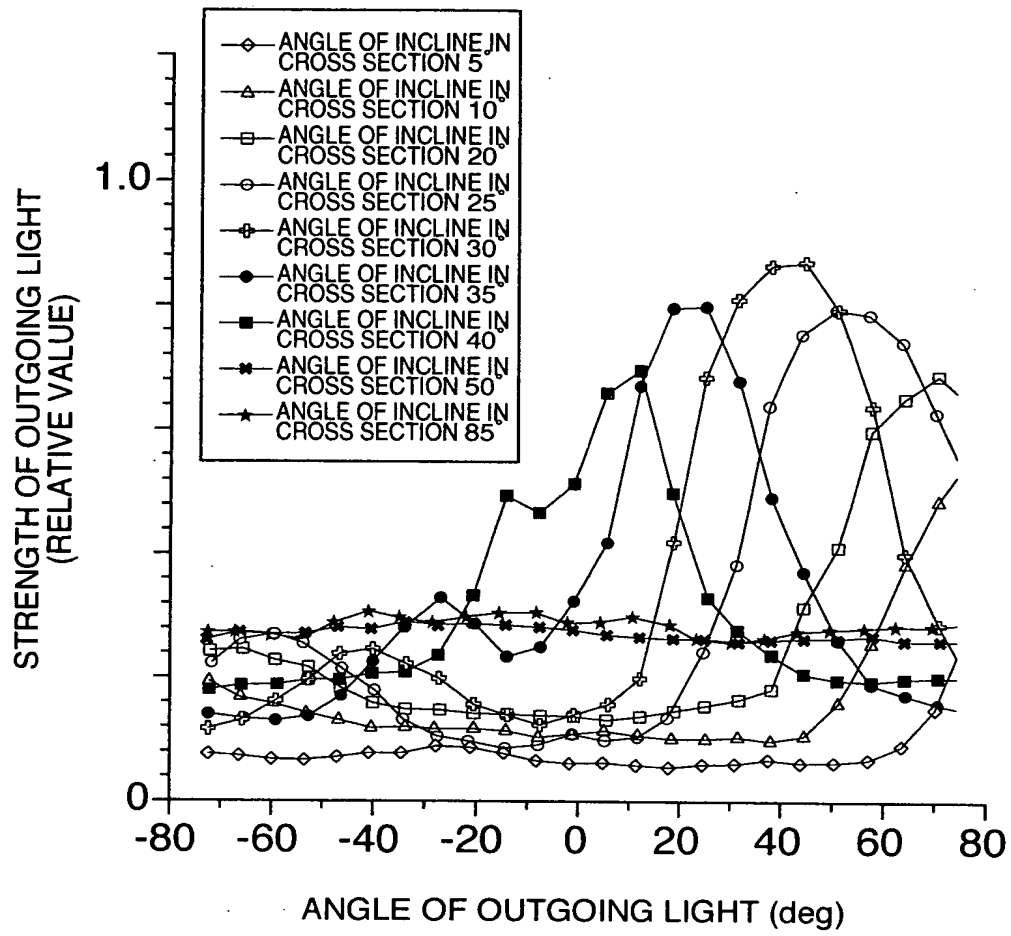


FIG.23

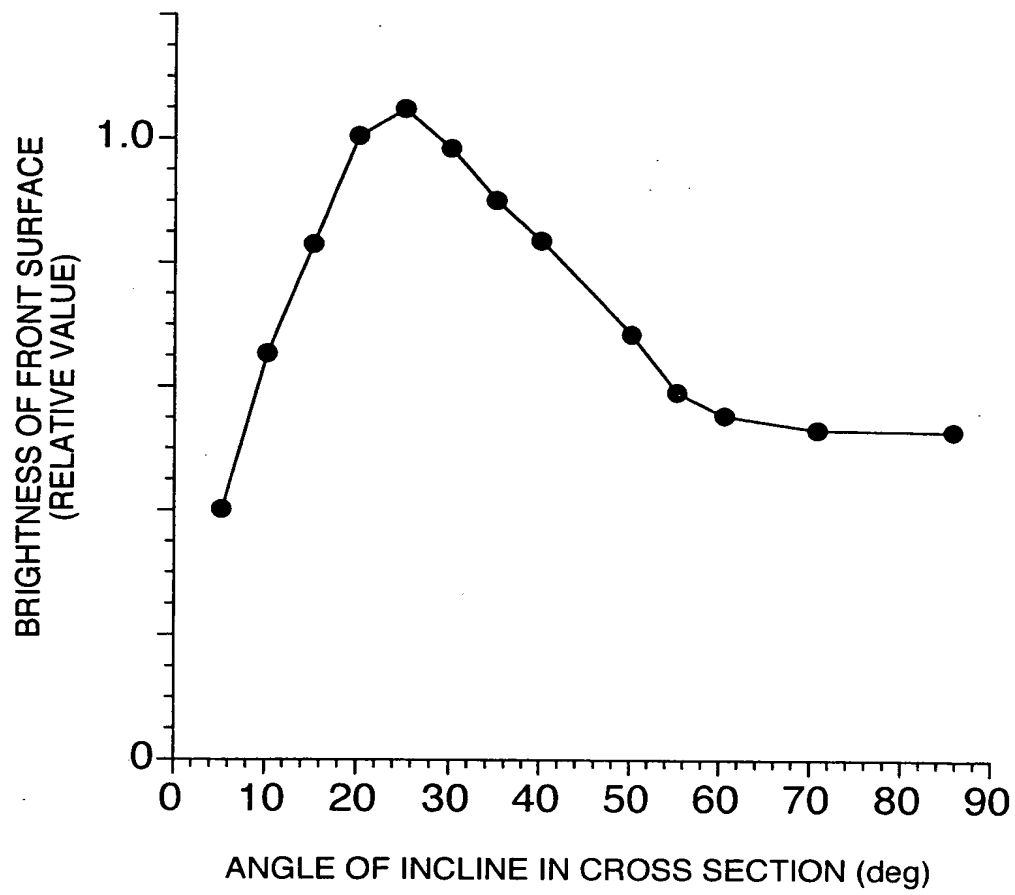


FIG.24

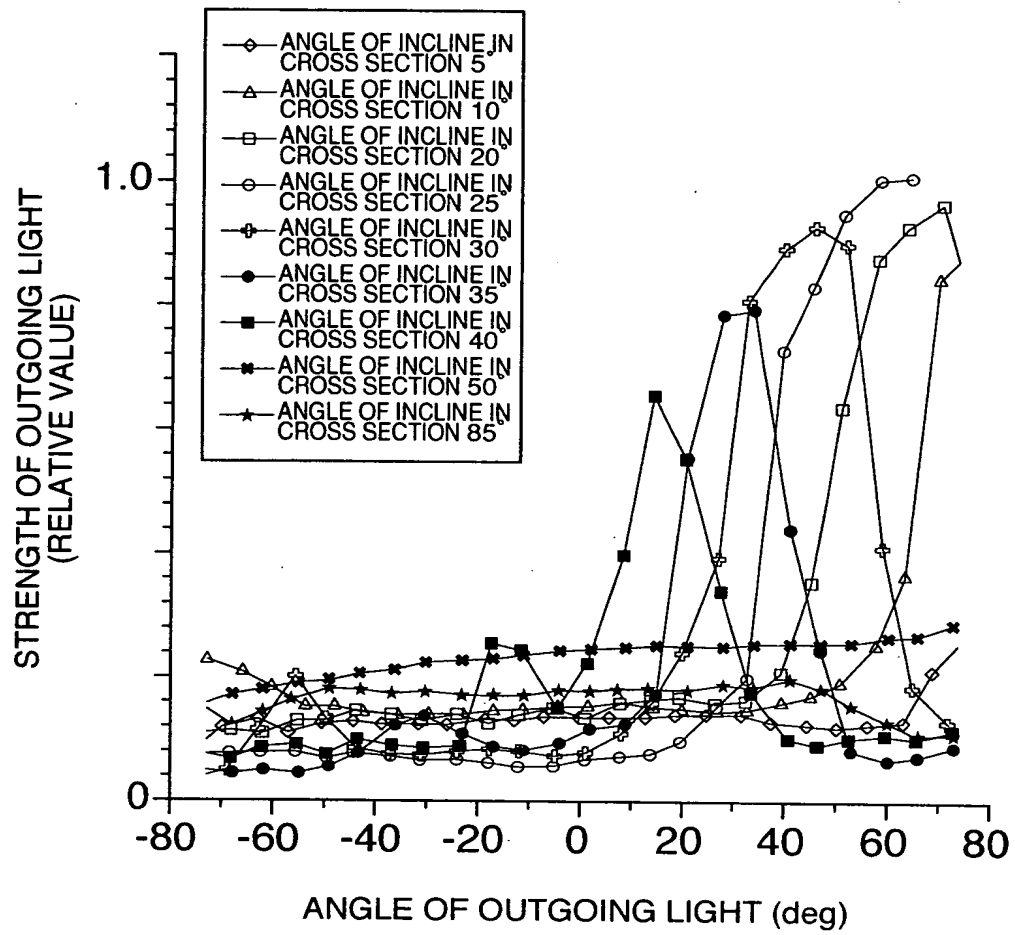


FIG.25

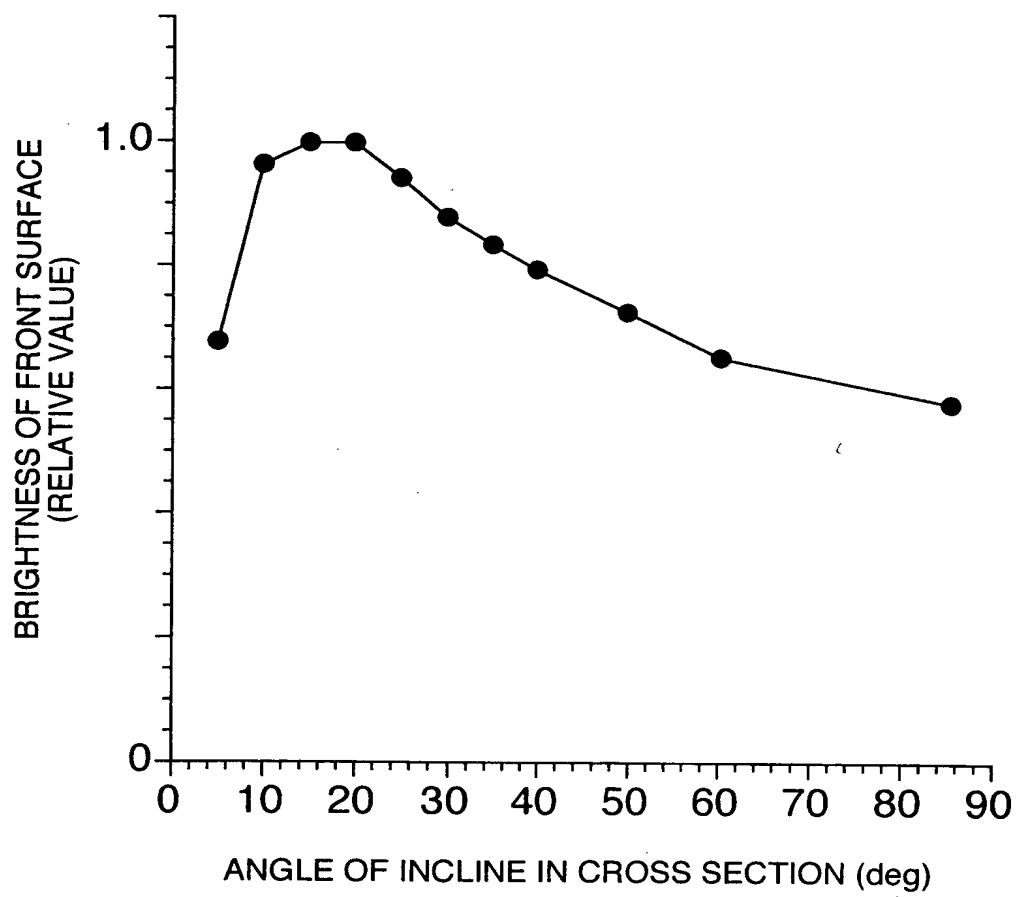


FIG.26

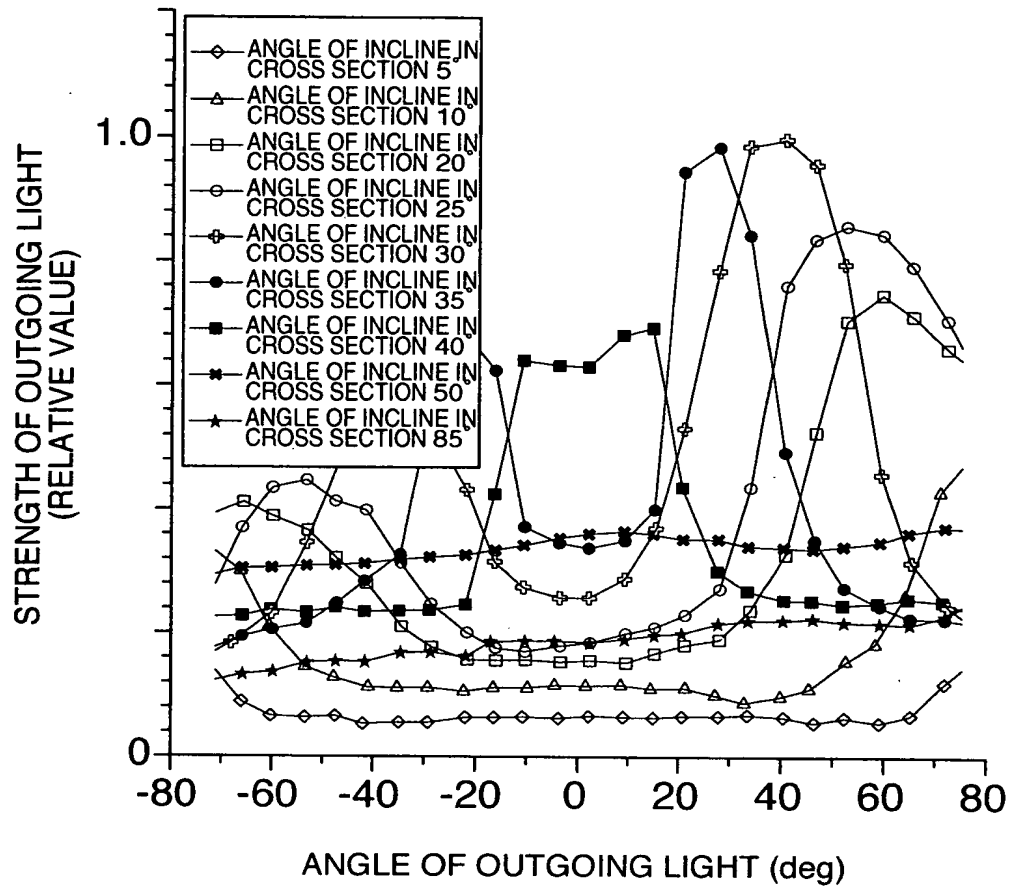




FIG.27

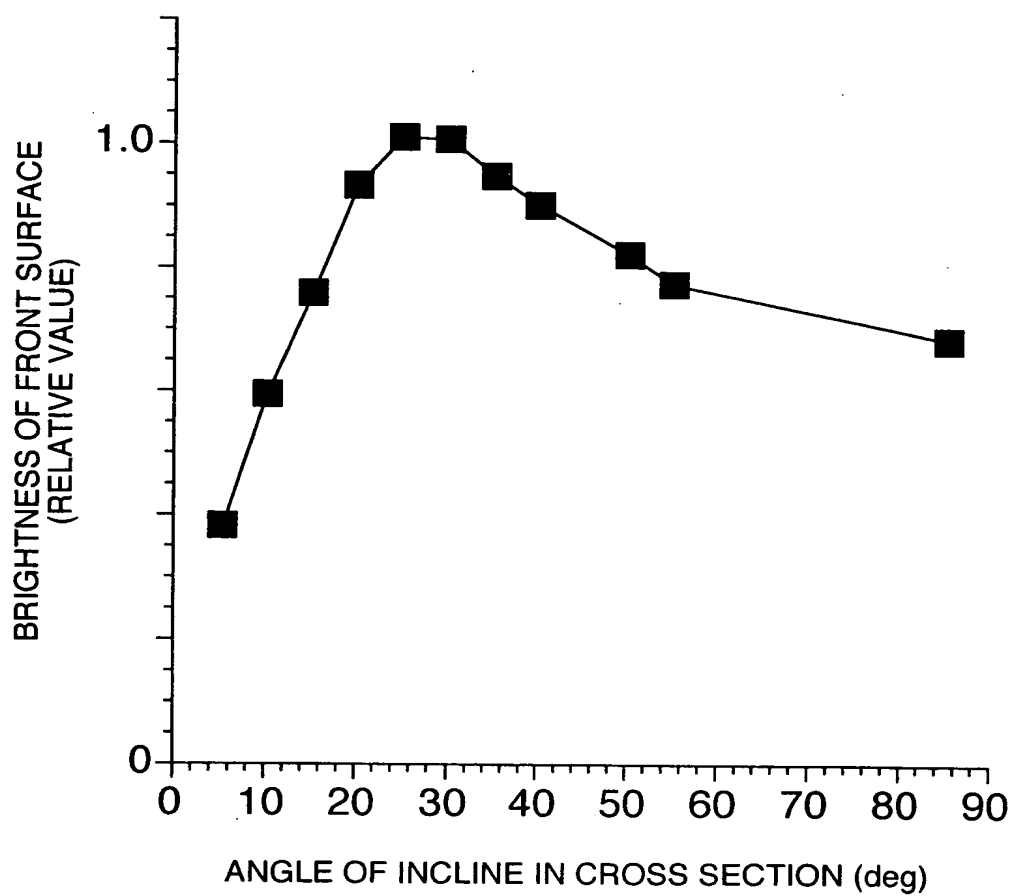


FIG.28A



FIG.28B

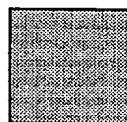


FIG.28C



FIG.28D



FIG.28E

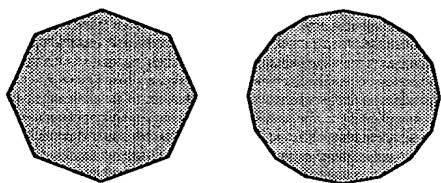


FIG.28F



FIG.28G

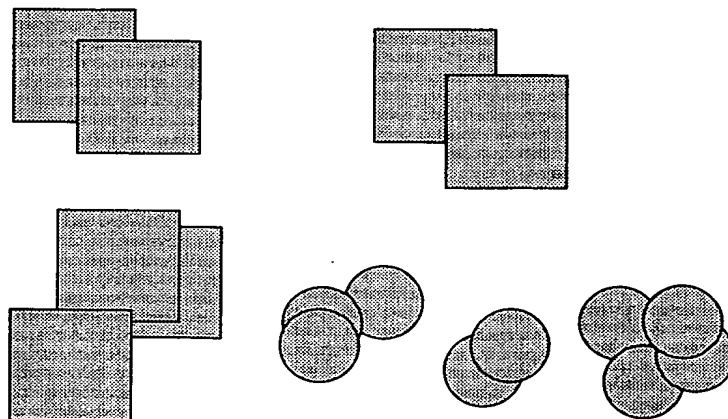


FIG.29A

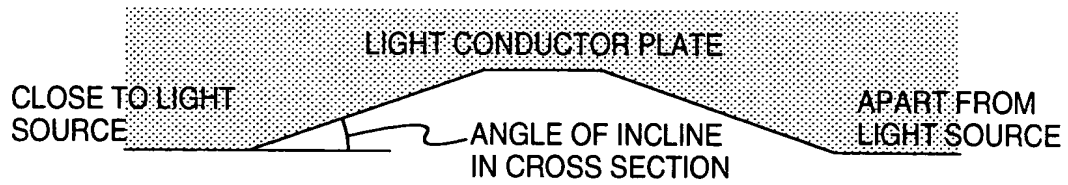


FIG.29B

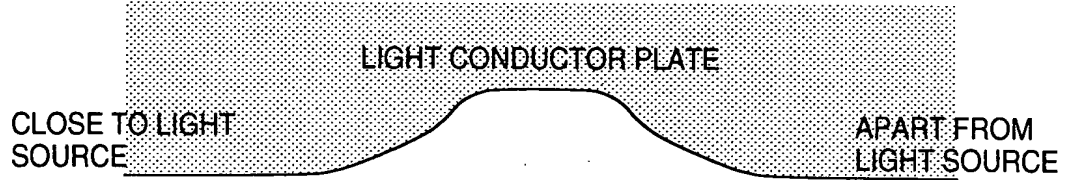


FIG.29C

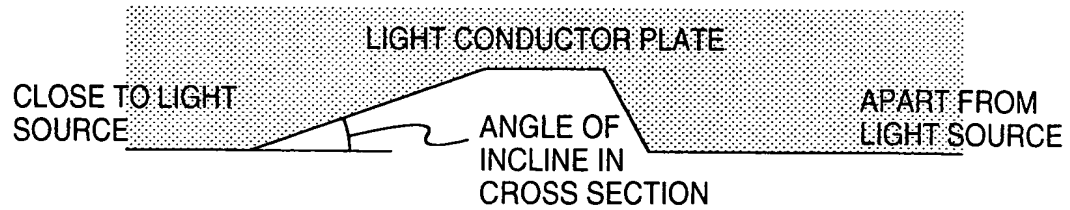


FIG.30

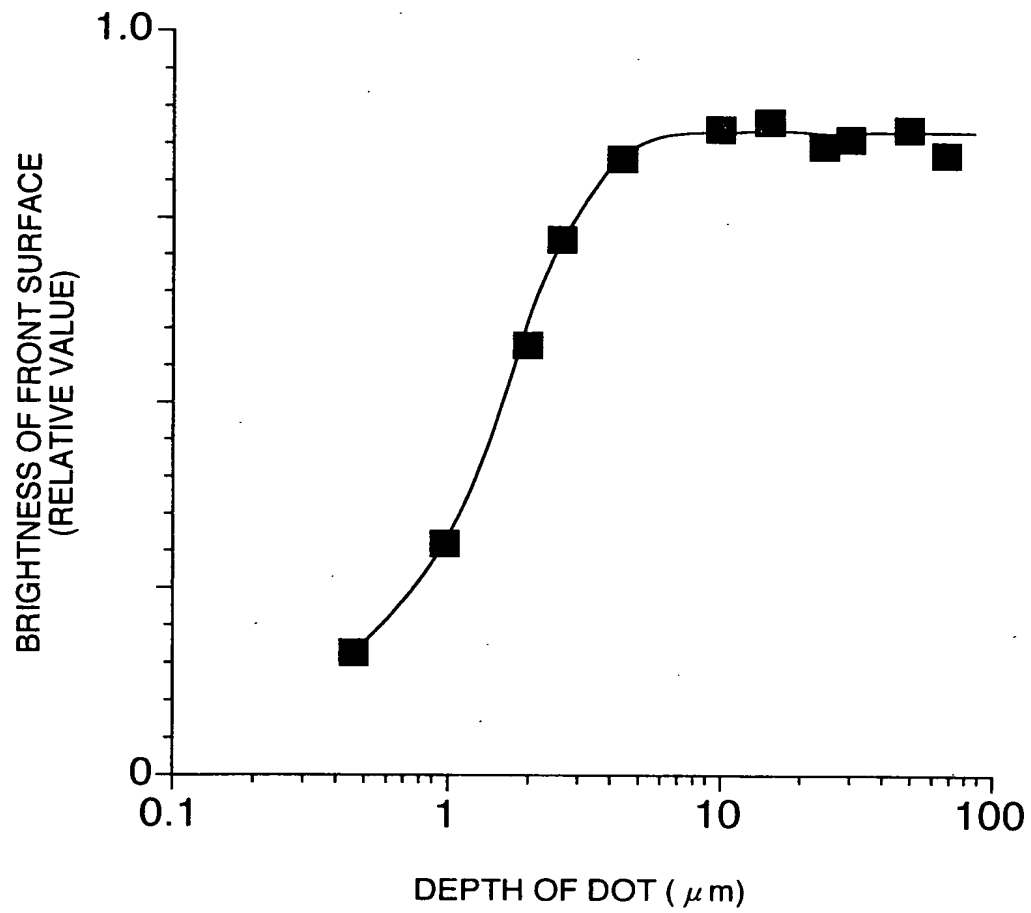
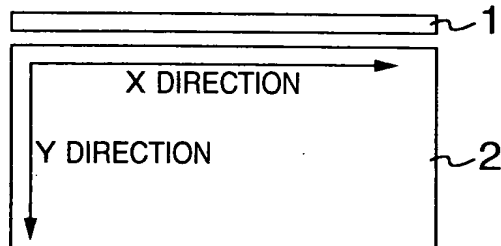


FIG.31

SHAPE	MEMBER	SIZE(X DIRECTION $\mu\text{m}$ )						
		10	20	50	100	200	400	800
CIRCULAR SHAPE, SQUARE	NONE	○	○	○	△	×	×	×
	DIFFUSION PLATE	○	○	○	○	△	×	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	○	○	○	○	○	△	×
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	○	○	○	○	○	○	△
SUBSTANTIALLY RECTANGULAY SHAPE (20 $\mu\text{m}$ IN Y DIRECTION)	NONE	—	○	○	○	△	×	×
	DIFFUSION PLATE	—	○	○	○	○	△	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	—	○	○	○	○	○	△
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	—	○	○	○	○	○	△
SUBSTANTIALLY RECTANGULAY SHAPE (50 $\mu\text{m}$ IN Y DIRECTION)	NONE	—	○	○	○	△	×	×
	DIFFUSION PLATE	—	○	○	○	△	△	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	—	○	○	○	○	△	×
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	—	○	○	○	○	○	△
SUBSTANTIALLY RECTANGULAY SHAPE (100 $\mu\text{m}$ IN Y DIRECTION)	NONE	—	○	○	△	×	×	×
	DIFFUSION PLATE	—	○	○	○	△	×	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	—	○	○	○	○	△	×
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	—	○	○	○	○	○	△
SUBSTANTIALLY RECTANGULAY SHAPE (200 $\mu\text{m}$ IN Y DIRECTION)	NONE	—	○	△	×	×	×	×
	DIFFUSION PLATE	—	○	○	○	△	×	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	—	○	○	○	○	△	×
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	—	○	○	○	○	○	△
SUBSTANTIALLY RECTANGULAY SHAPE (400 $\mu\text{m}$ IN Y DIRECTION)	NONE	—	○	△	×	×	×	×
	DIFFUSION PLATE	—	○	○	○	△	×	×
	DIFFUSION PLATE + ONE LIGHT CONDUCTOR PLATE	—	○	○	○	○	△	×
	DIFFUSION PLATE + TWO LIGHT CONDUCTOR PLATES	—	○	○	○	○	○	△



○ DOT VISIBILITY NONE  
 △ SOMETIME DOT VIBILITY EXISTS  
 × DOT VISIBILITY EXISTS

FIG.32A

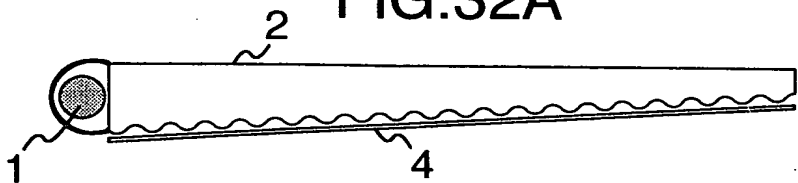


FIG.32B

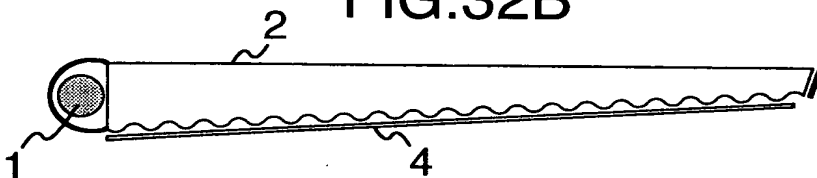


FIG.32C

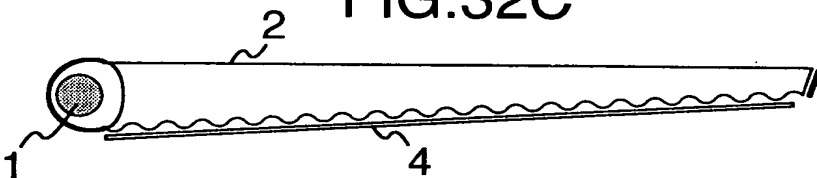


FIG.32D

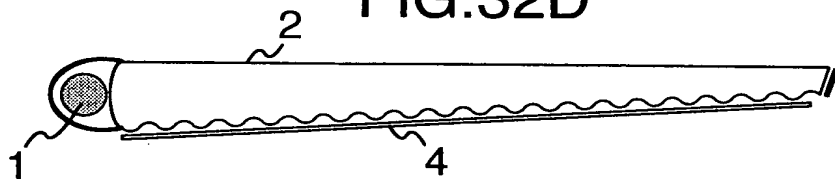


FIG.32E

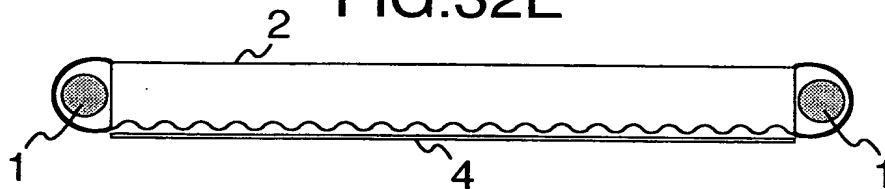


FIG.32F

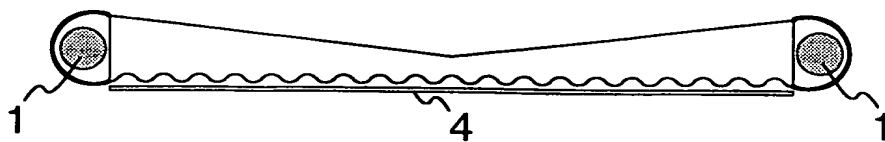


FIG.33

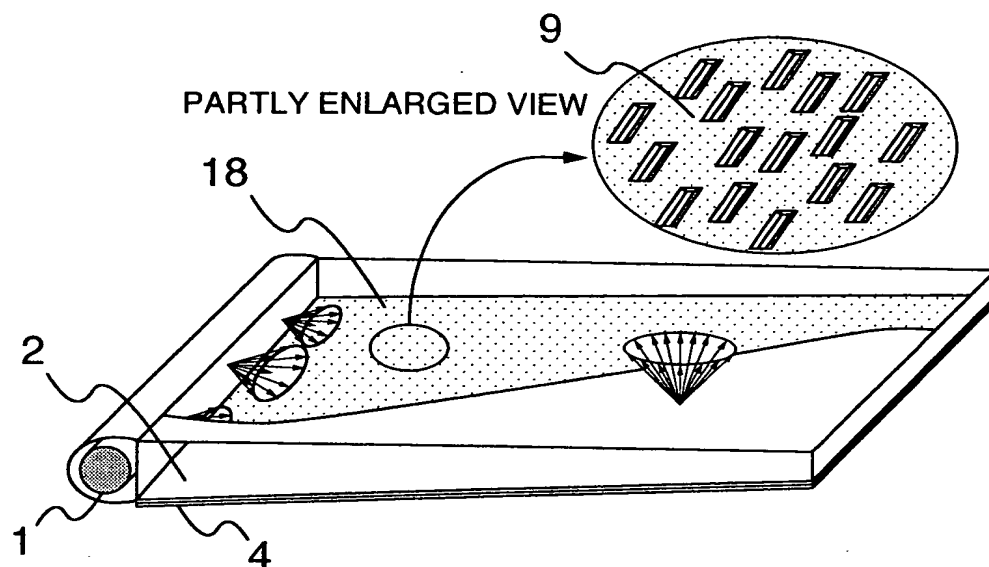


FIG.34

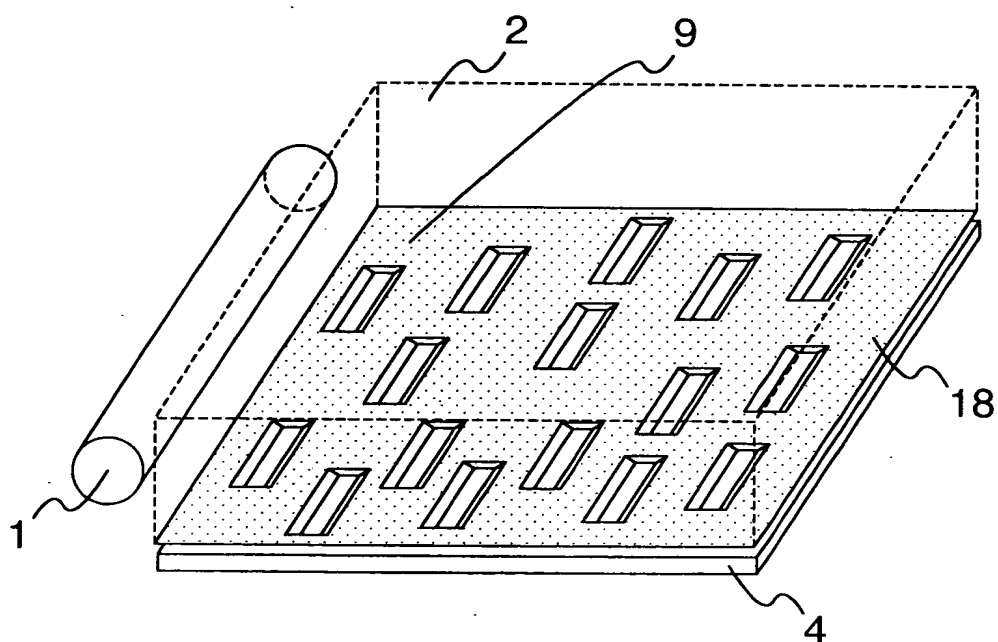


FIG.35

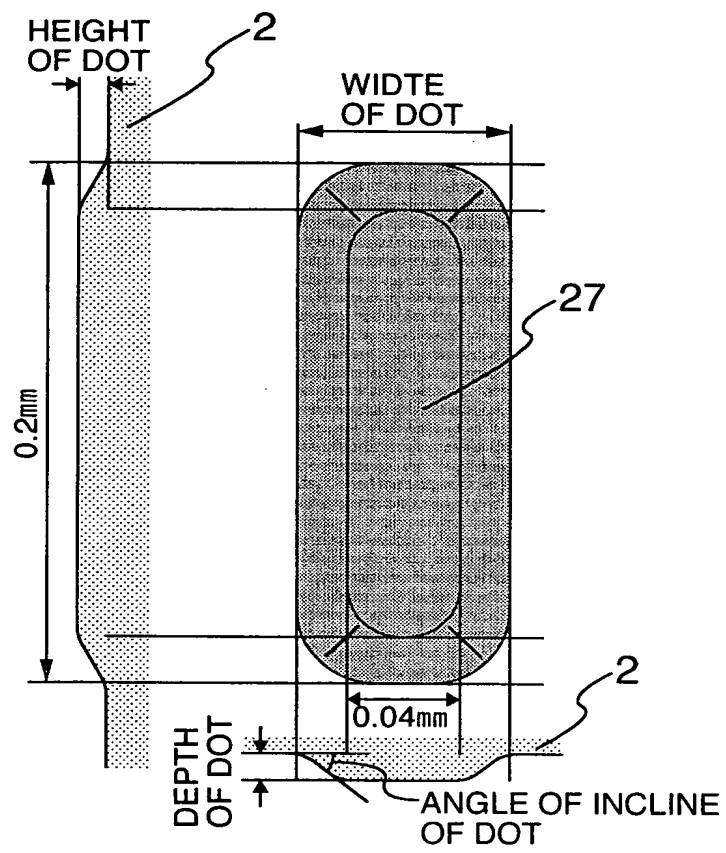




FIG.36

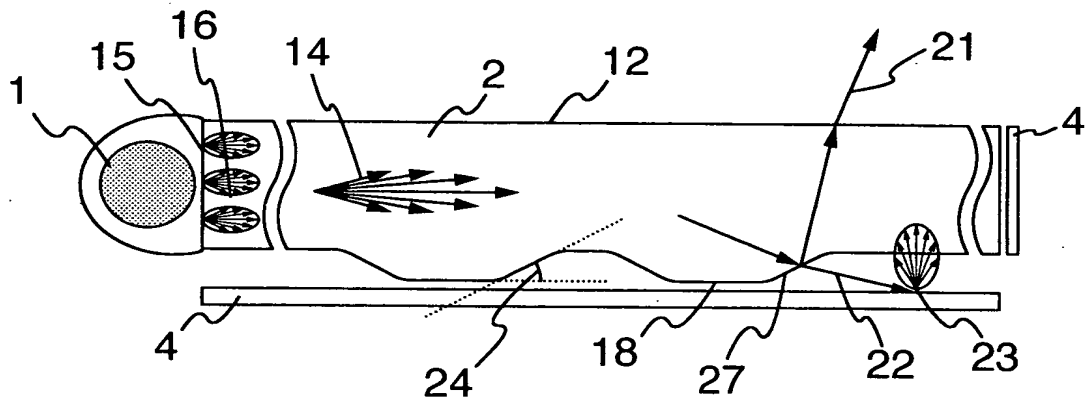


FIG.37

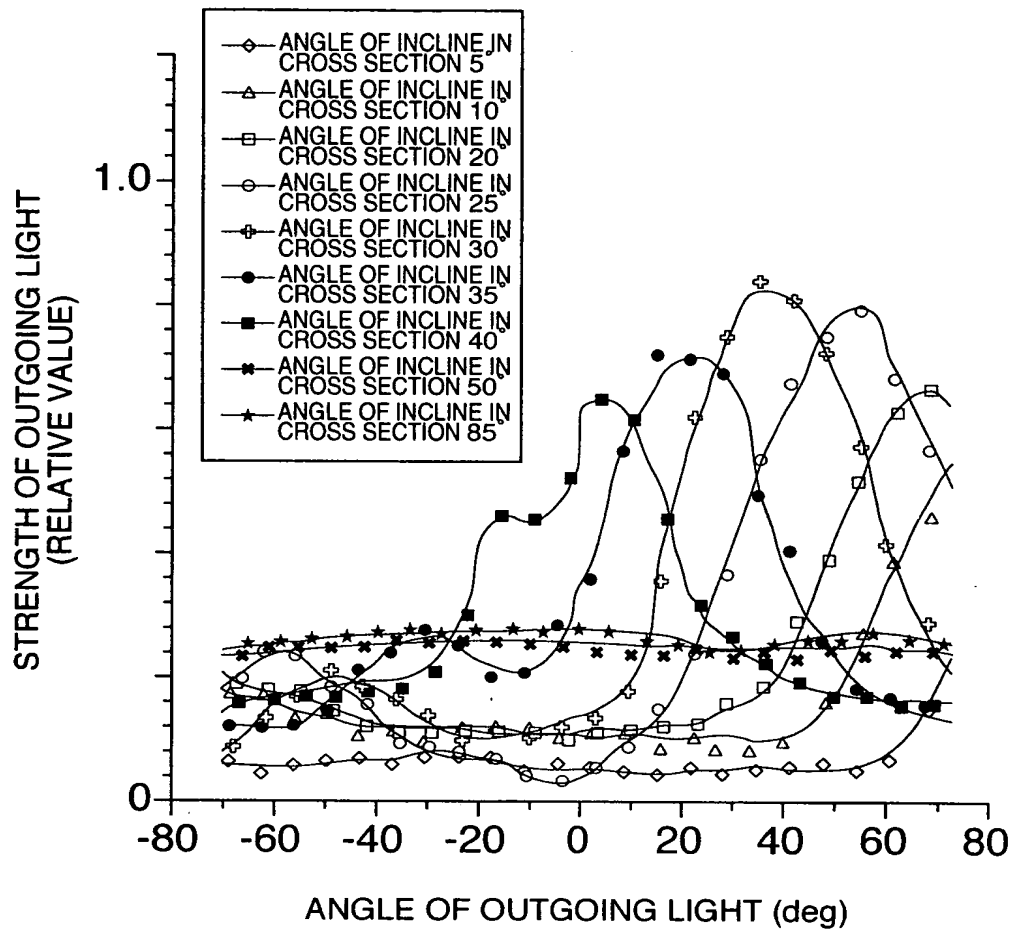


FIG.38

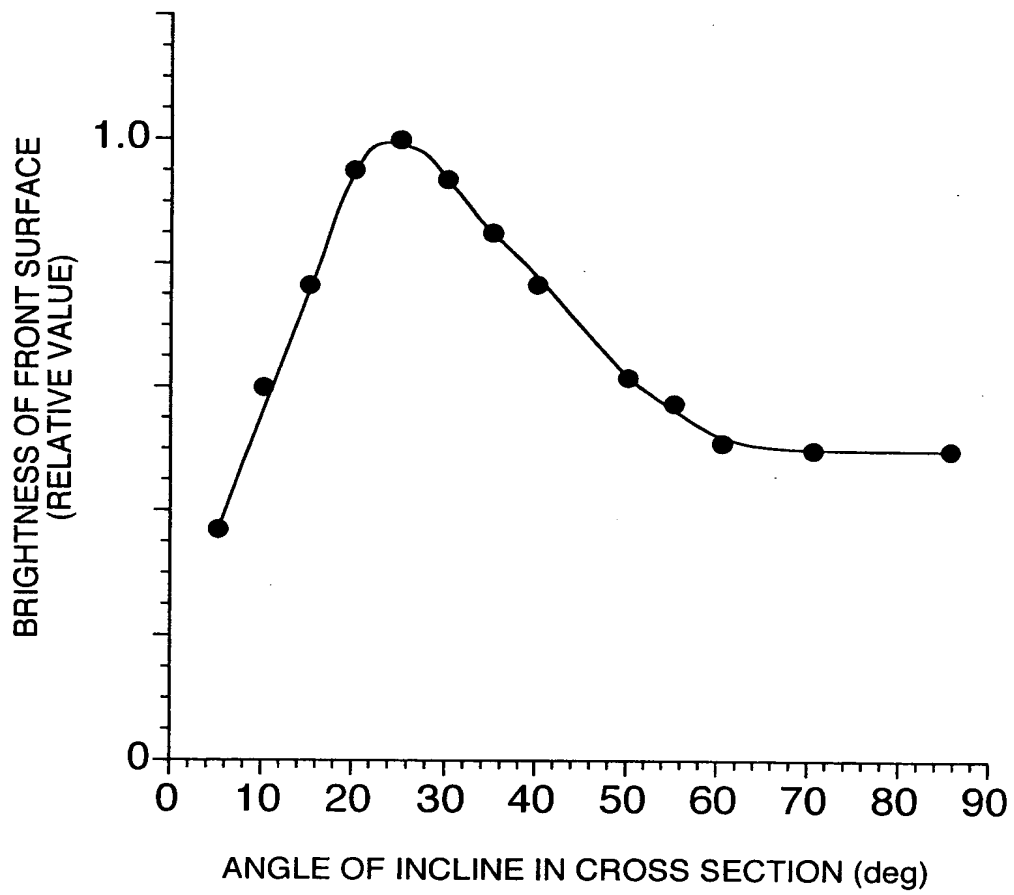


FIG.39A

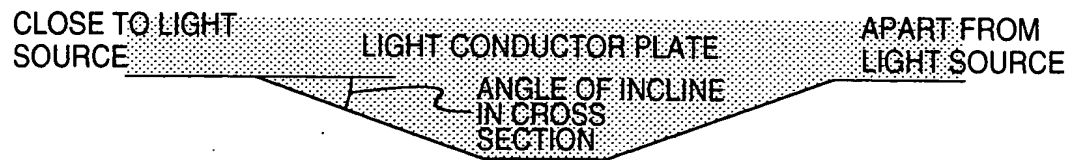


FIG.39B

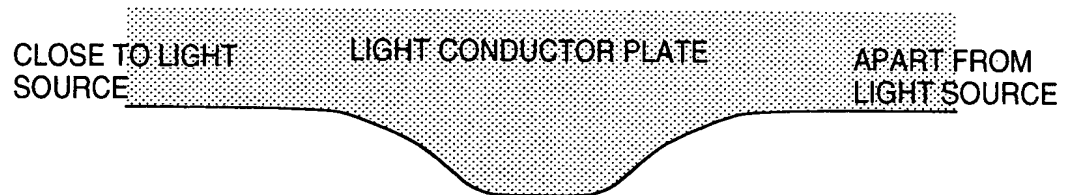


FIG.39C

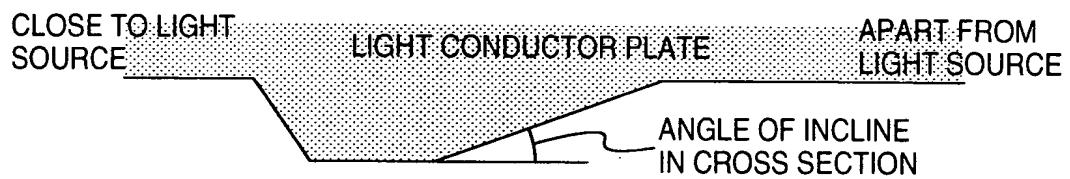


FIG.40

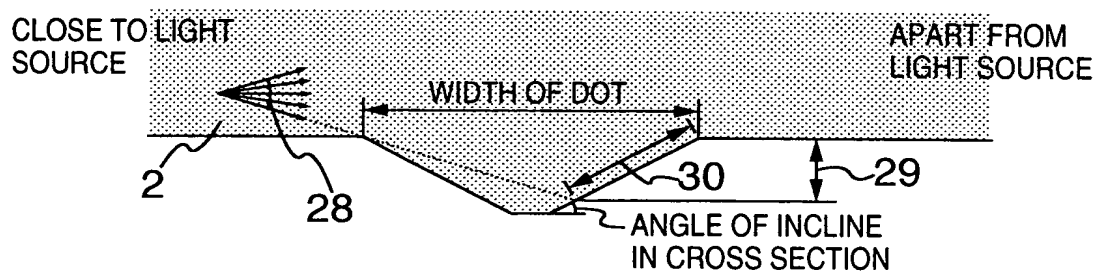


FIG.41

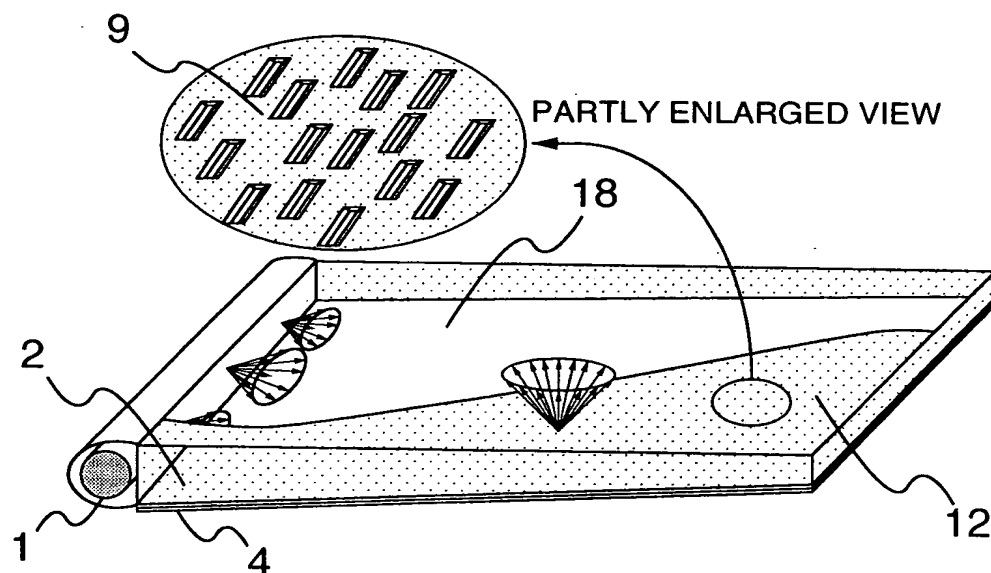


FIG.42

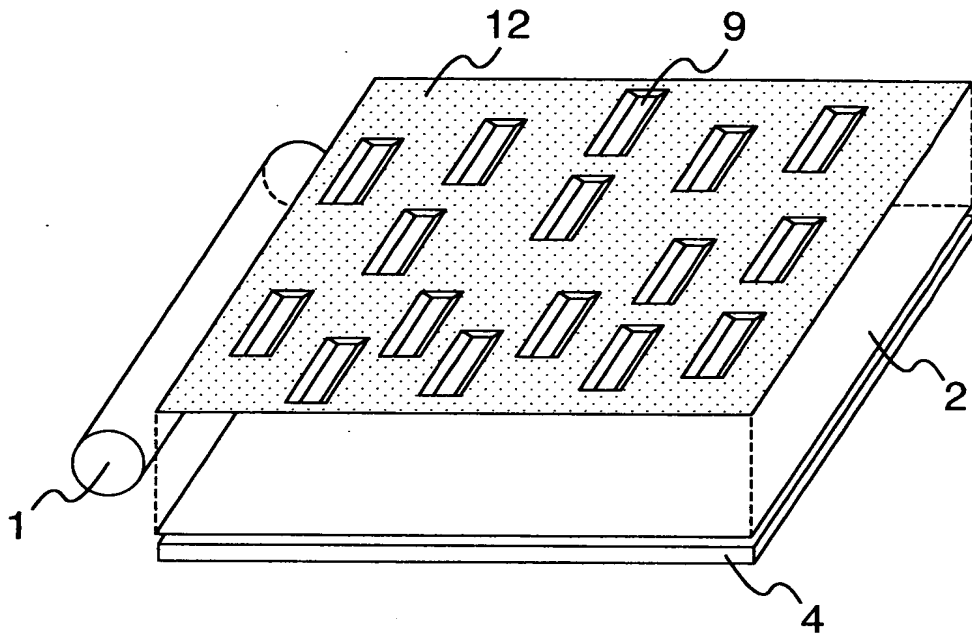


FIG.43

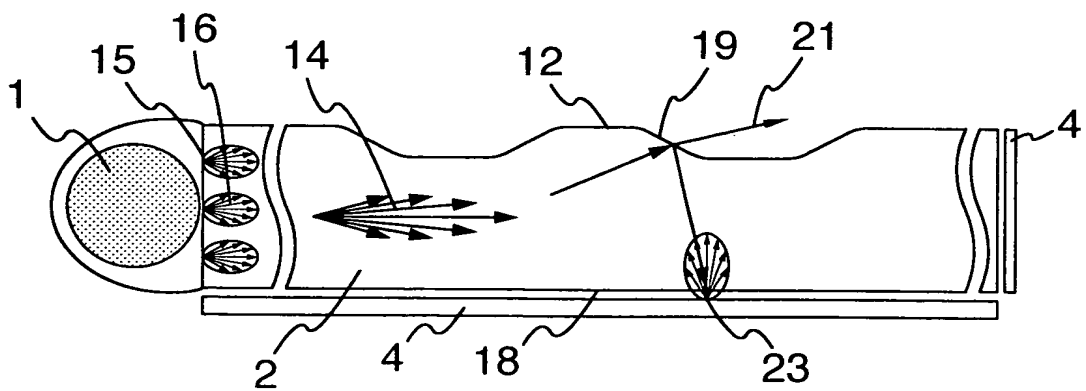


FIG.44

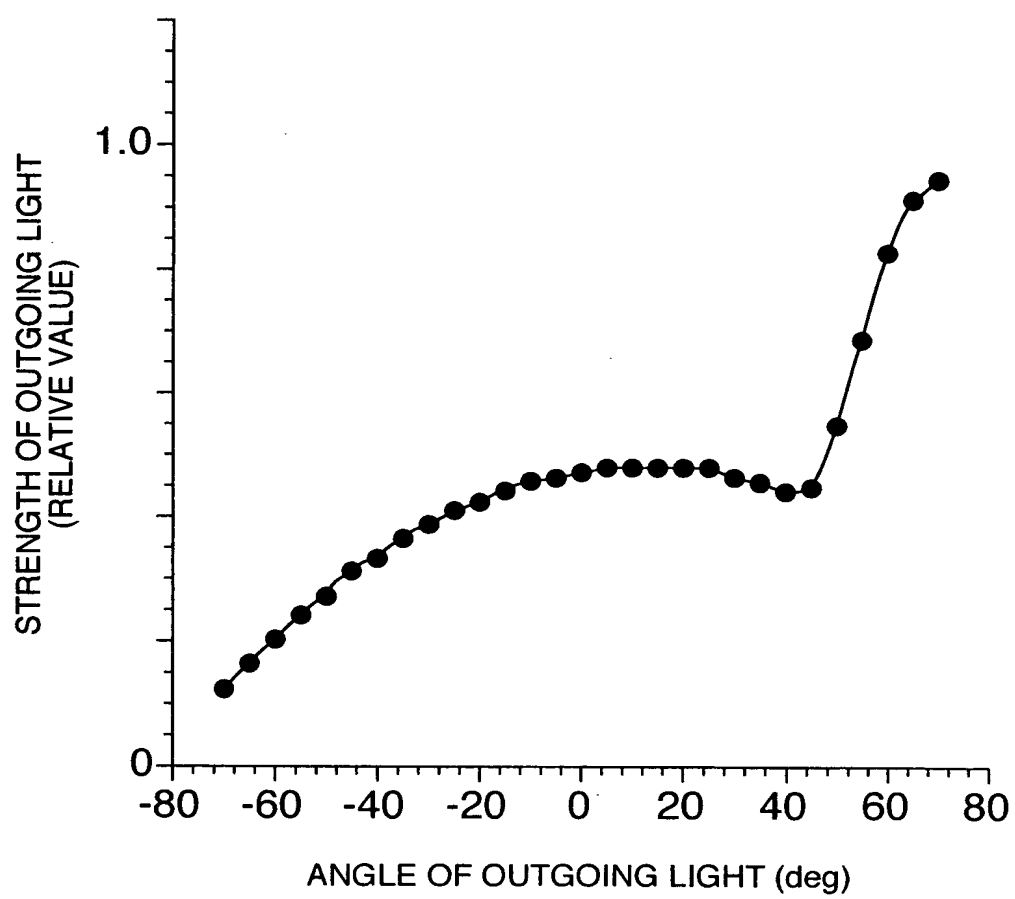


FIG.45

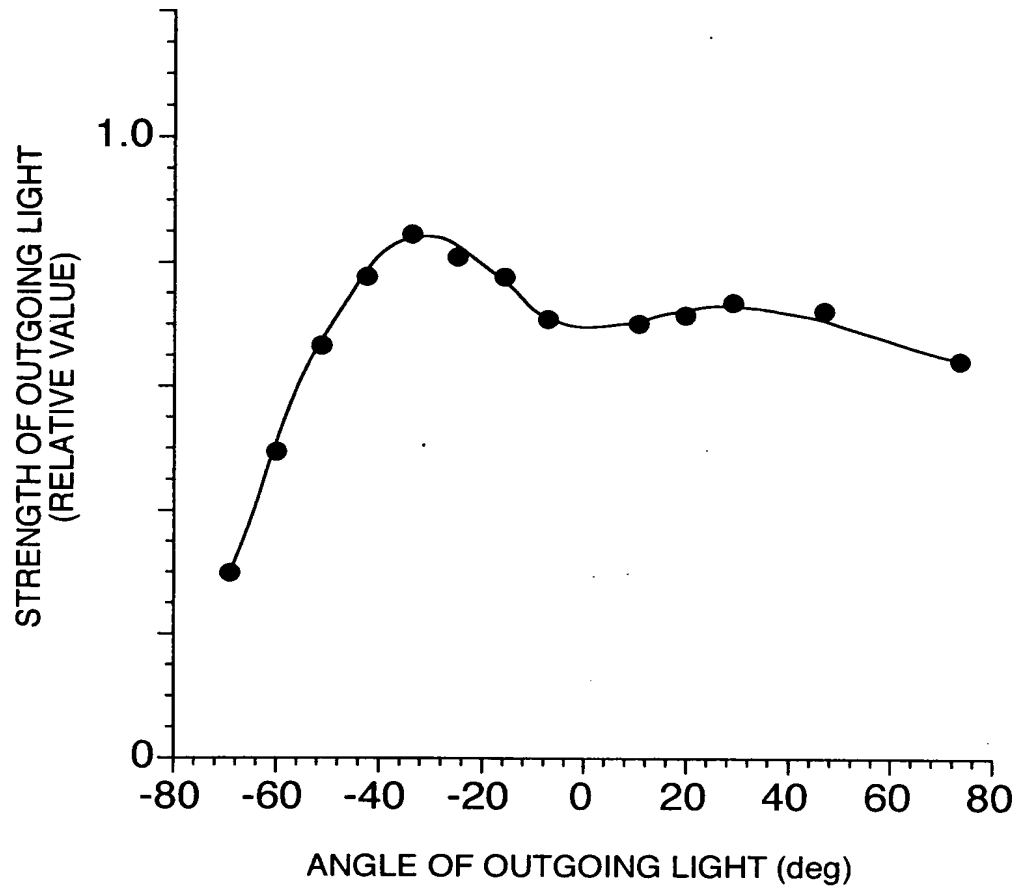


FIG.46

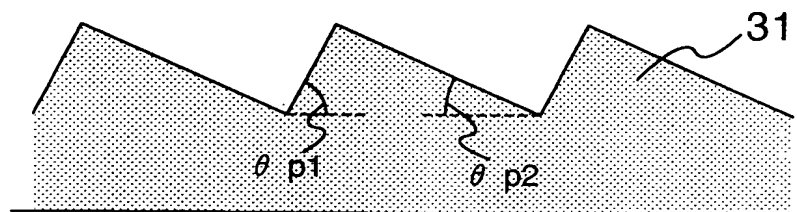




FIG.47A

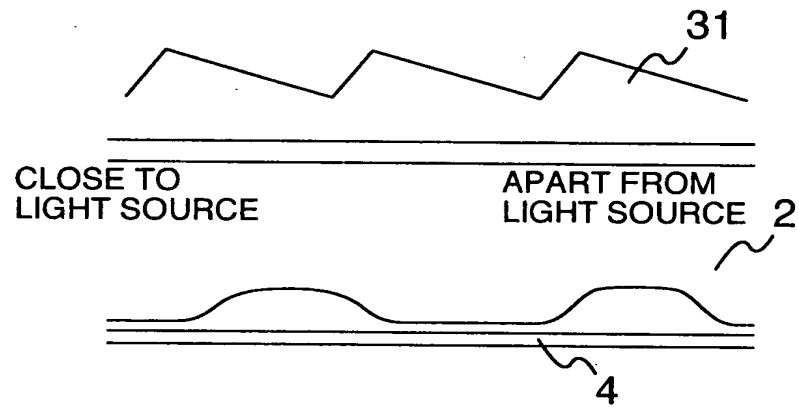


FIG.47B

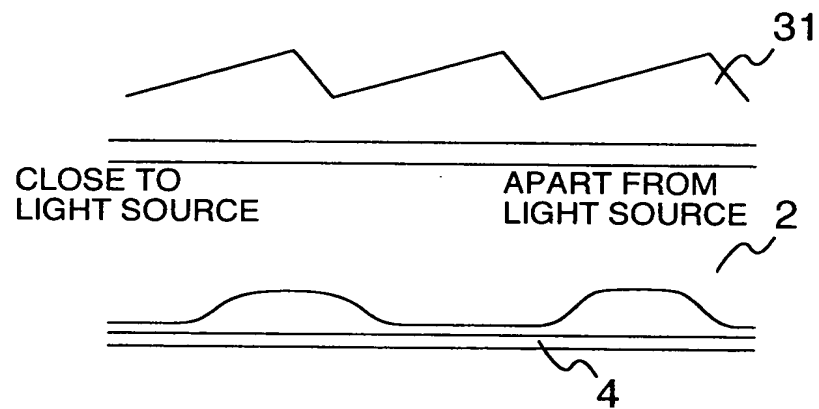


FIG.48

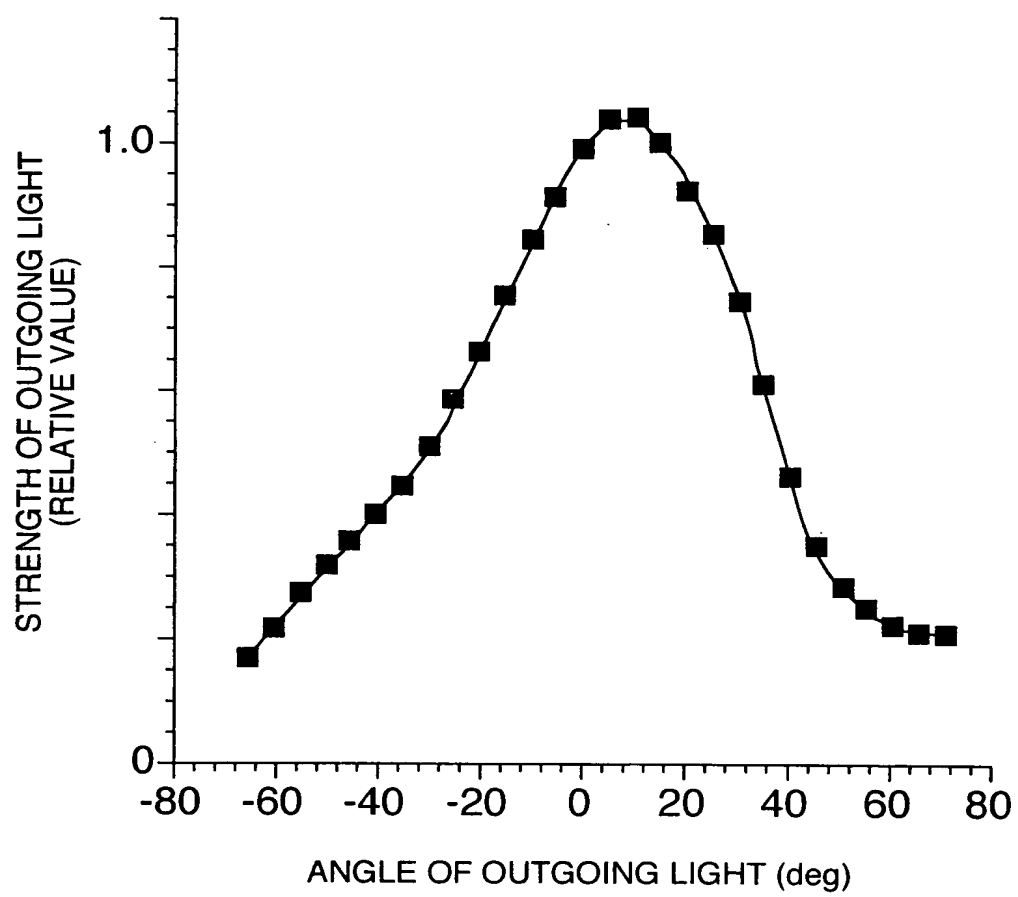


FIG.49

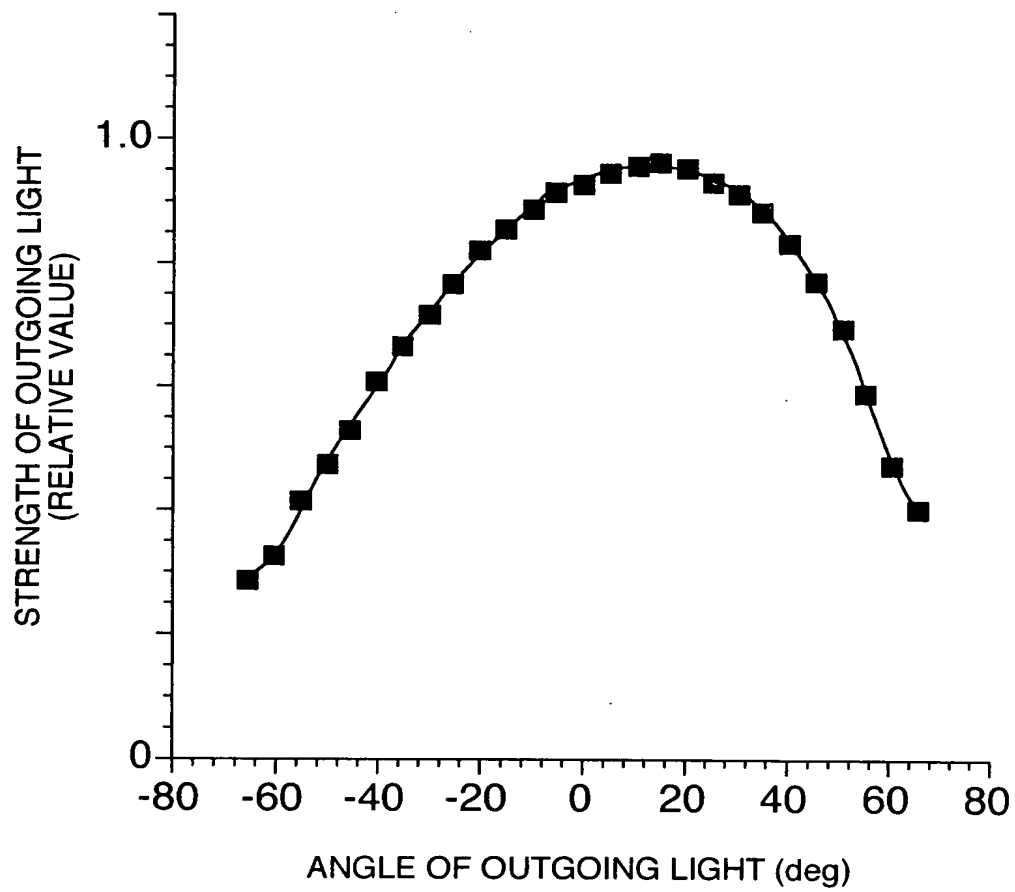
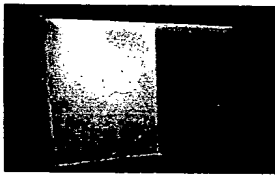


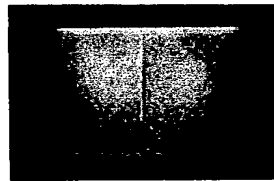
FIG.50



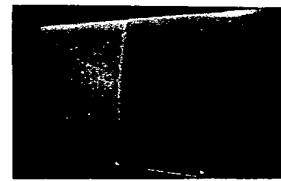
PHOTOGRAPHED  
FROM ABOVE



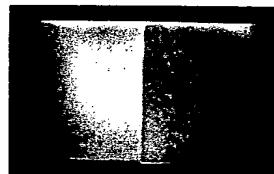
PHOTOGRAPHED  
FROM LEFT



PHOTOGRAPHED  
FROM FRONT



PHOTOGRAPHED  
FROM RIGHT



PHOTOGRAPHED  
FROM BELOW

FIG.51

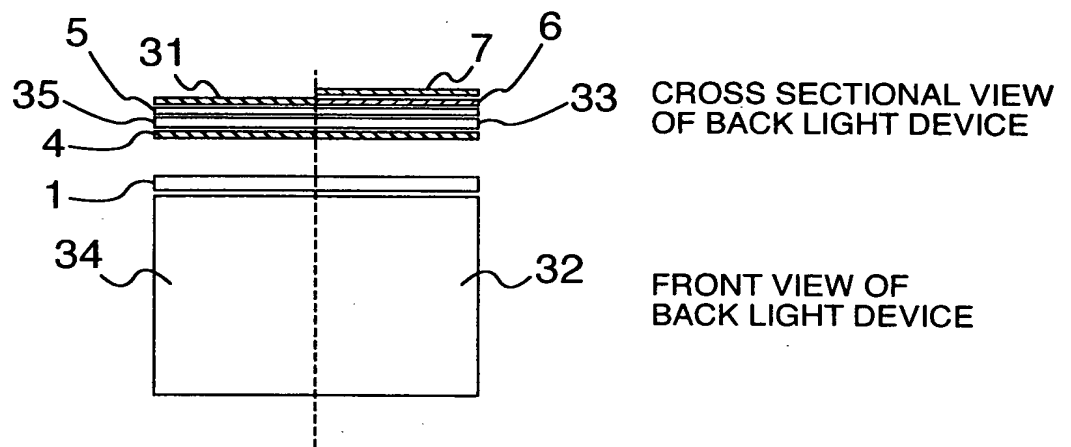


FIG.52

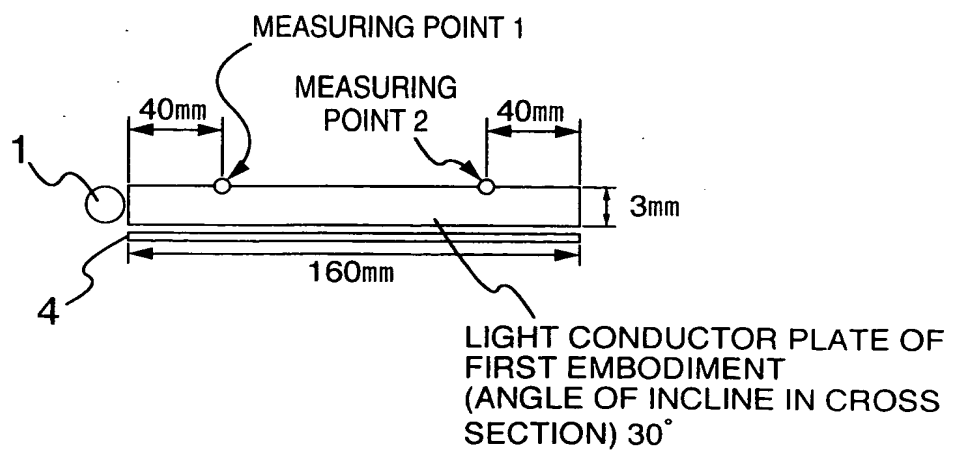
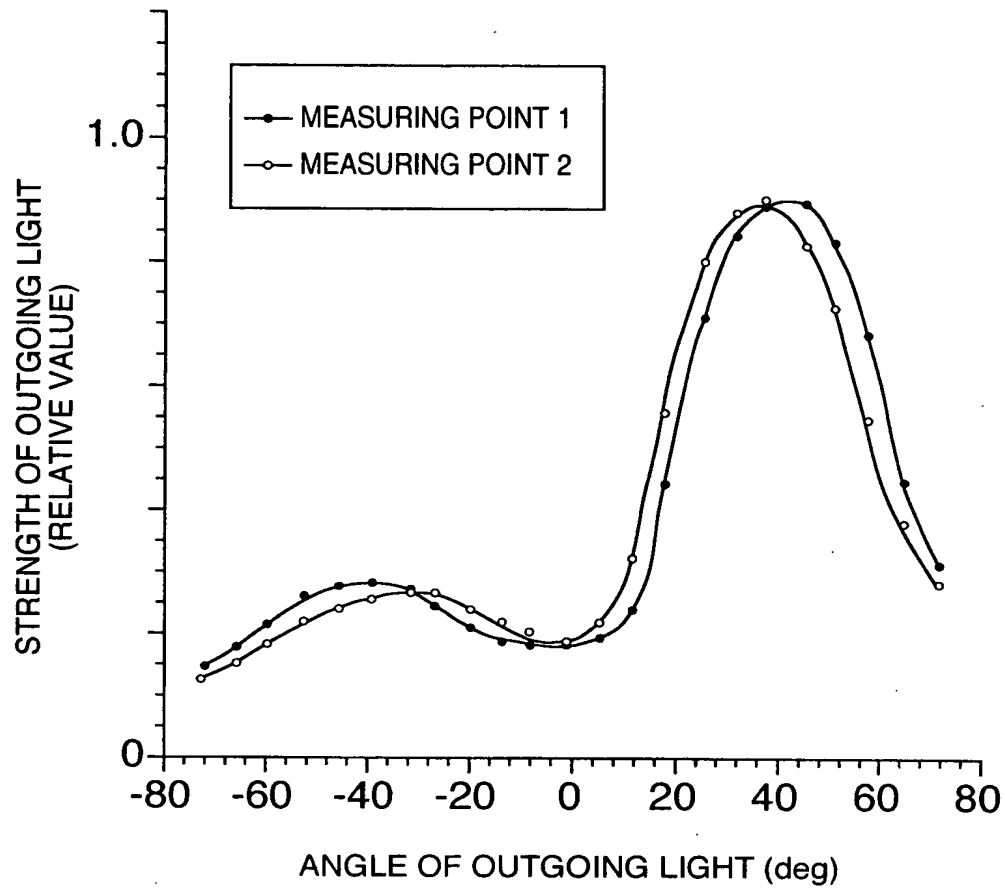


FIG.53

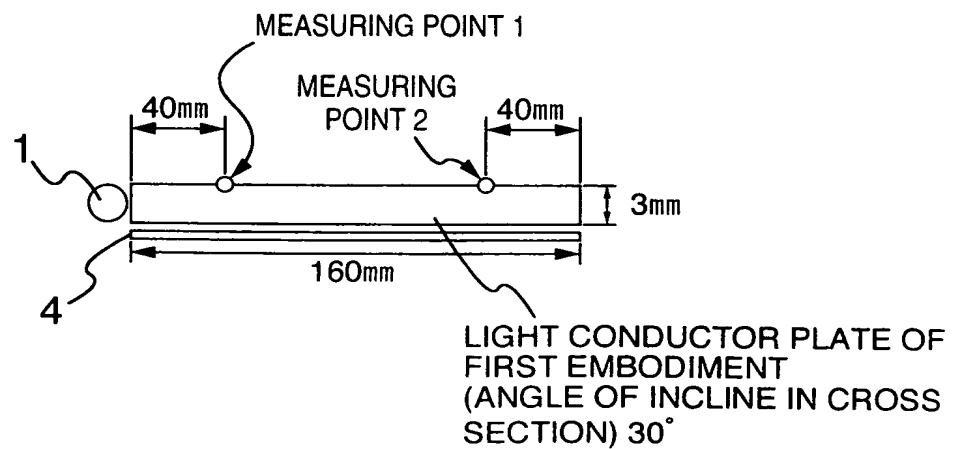
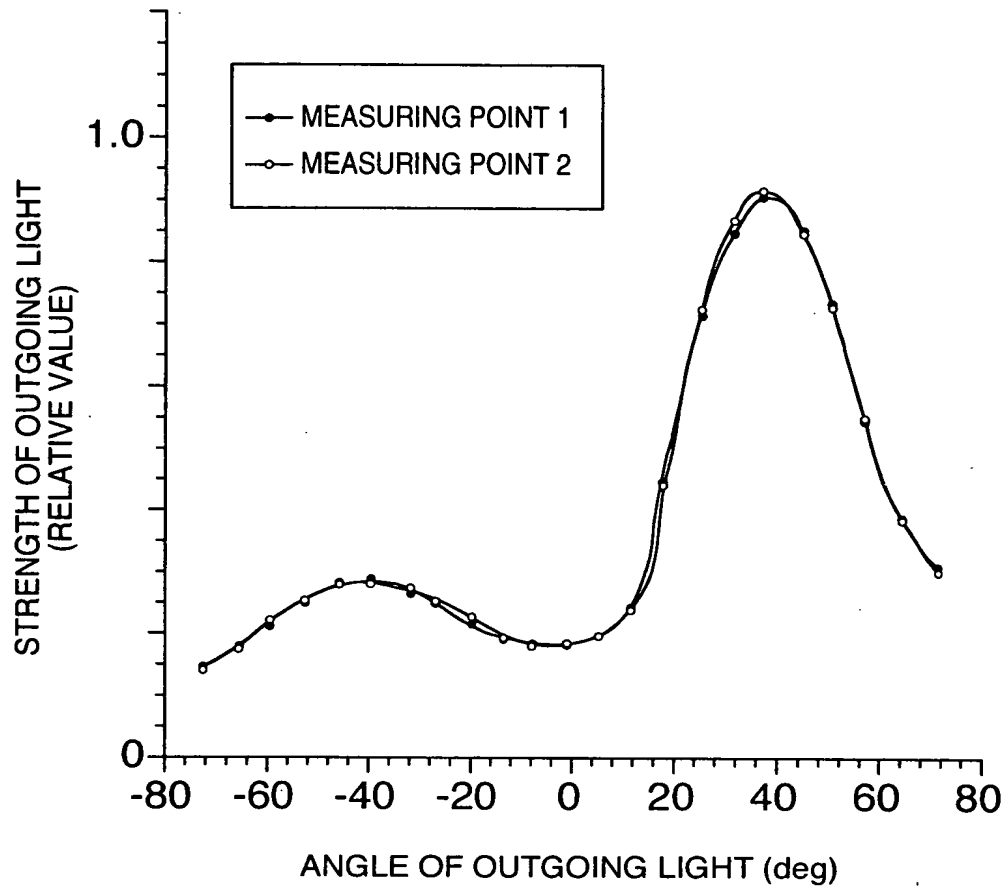


FIG.54

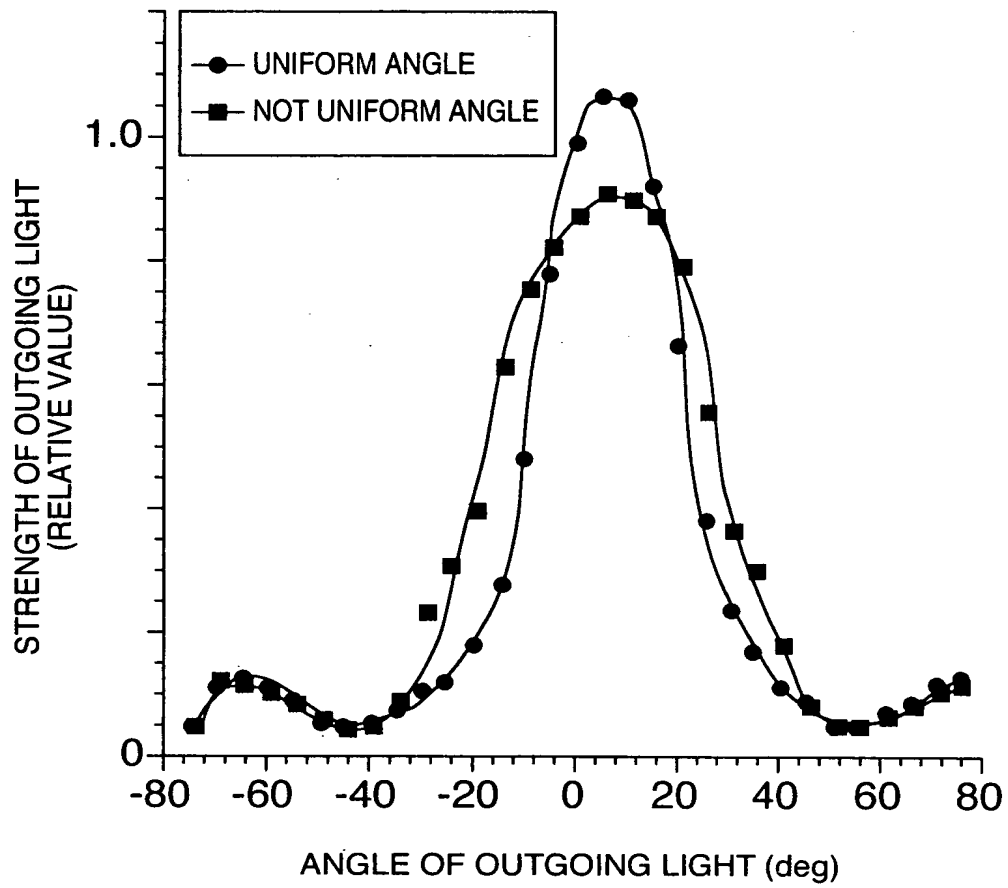




FIG.55

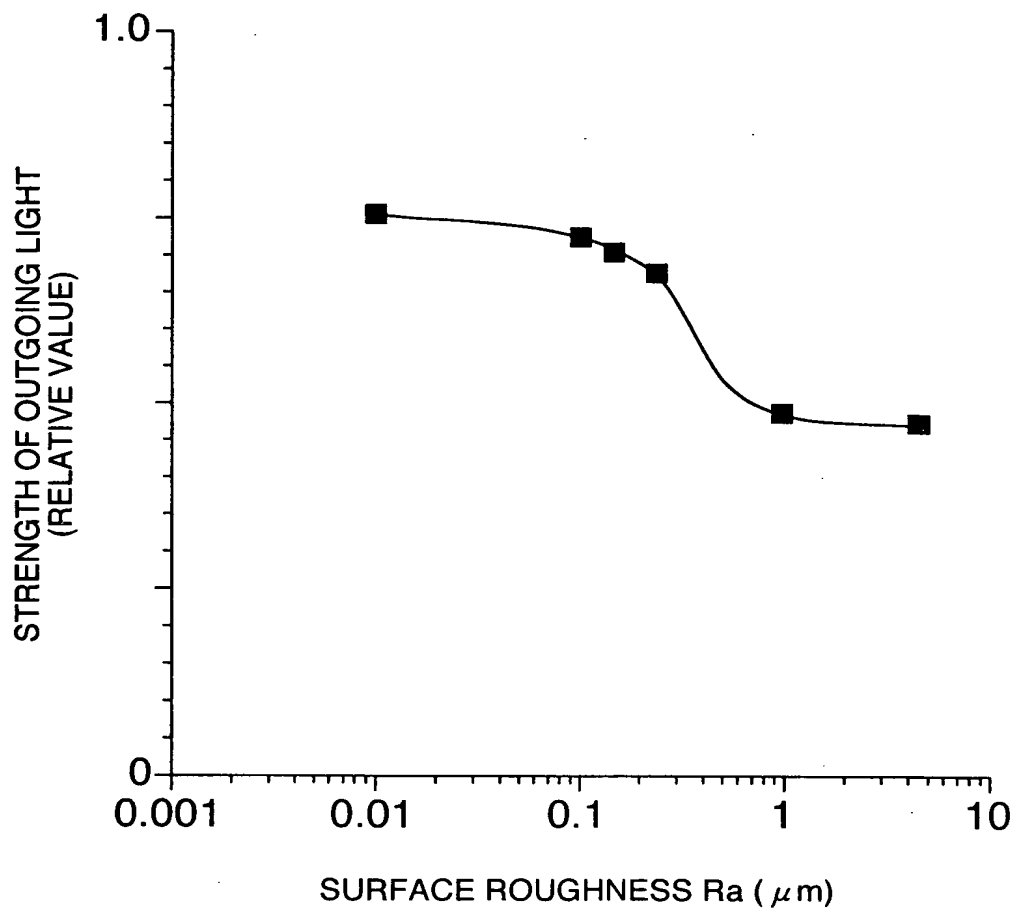


FIG.56

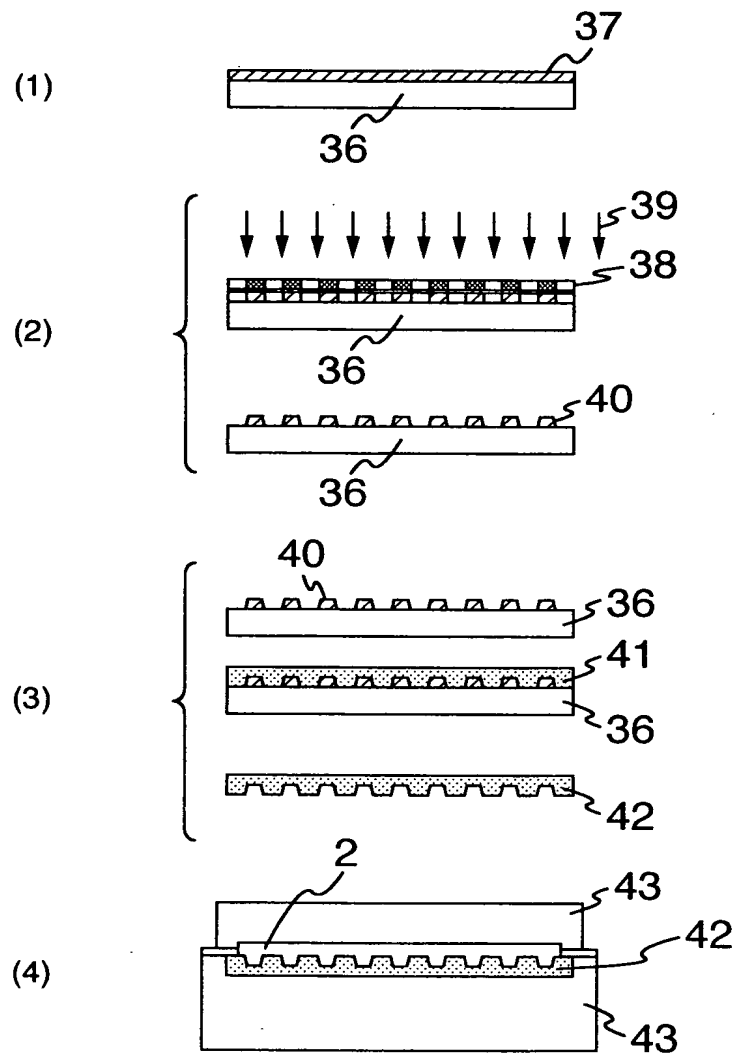


FIG.57

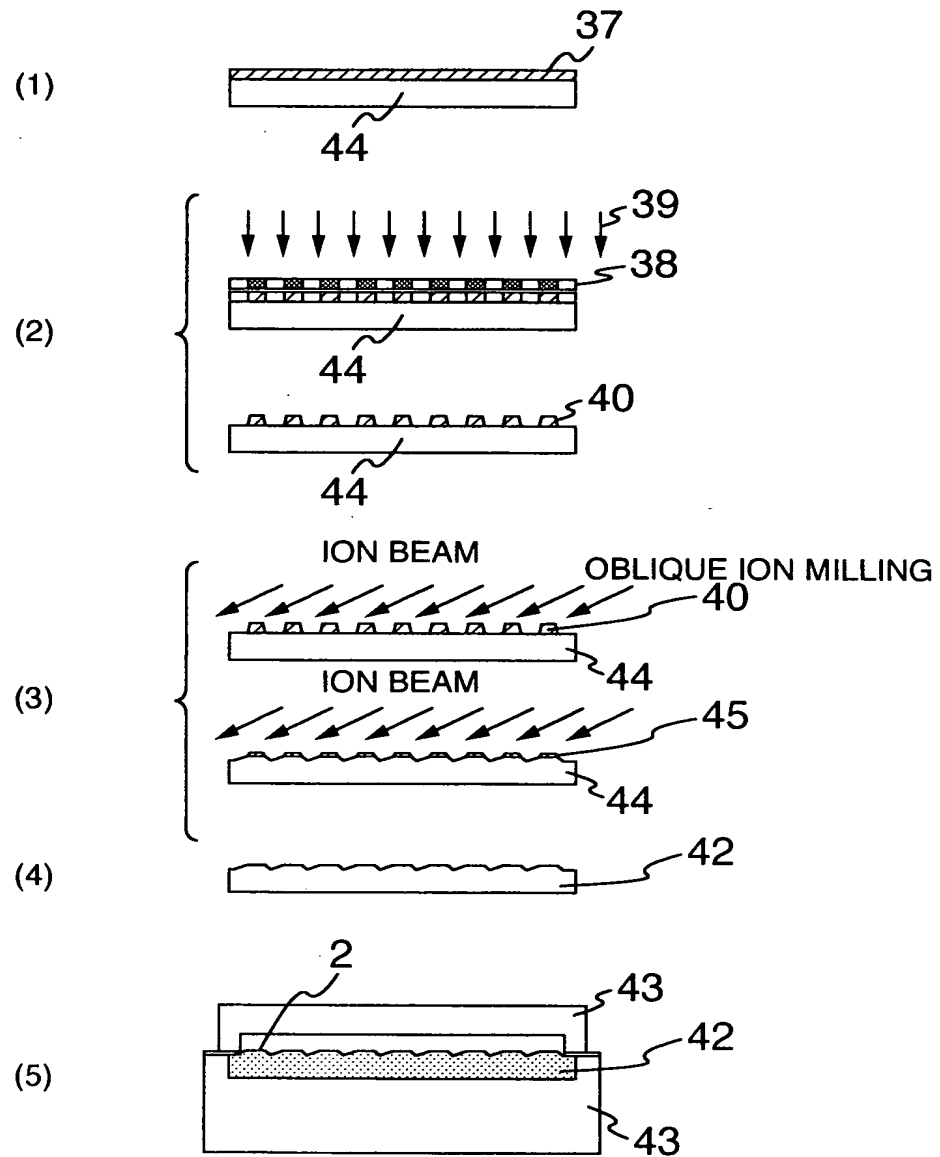


FIG.58

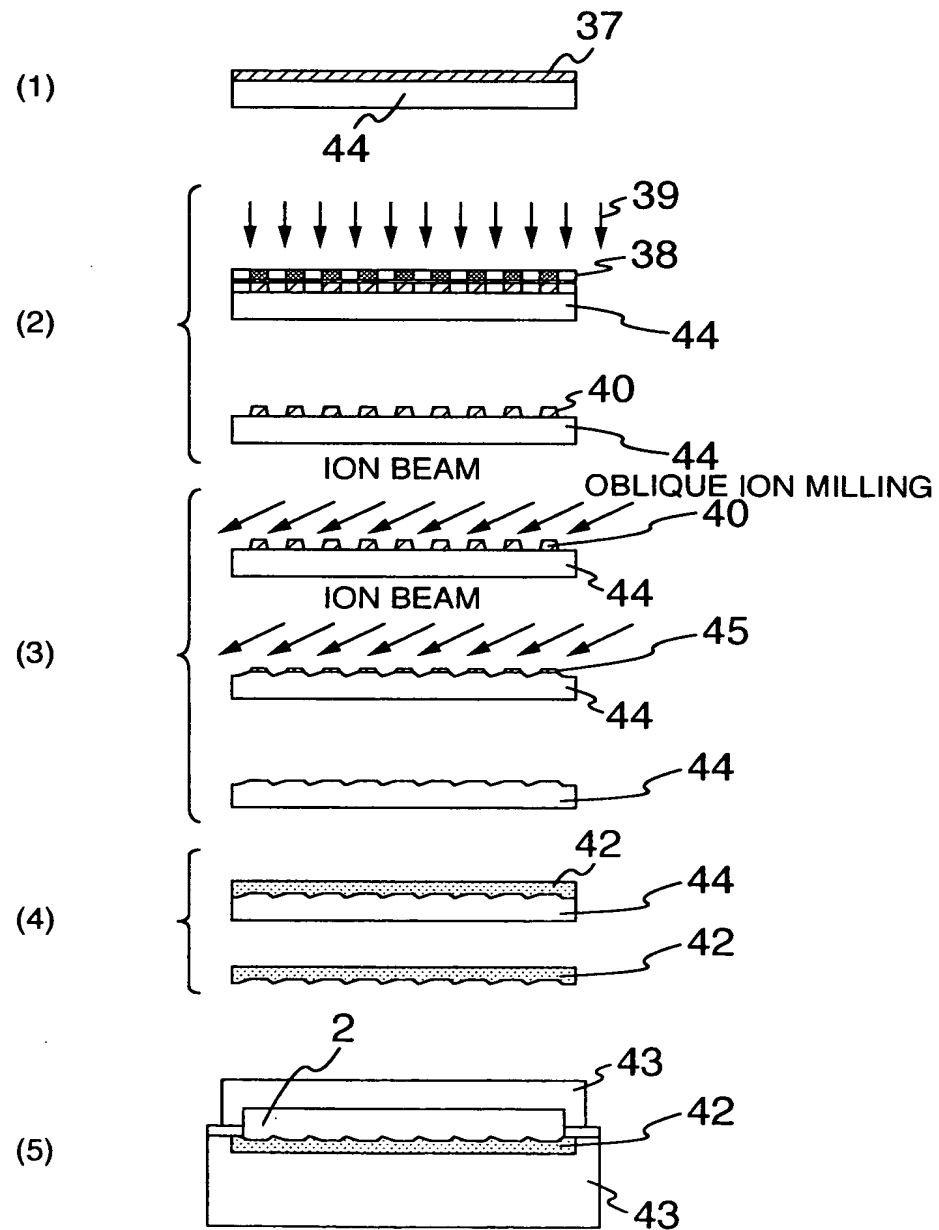


FIG.59

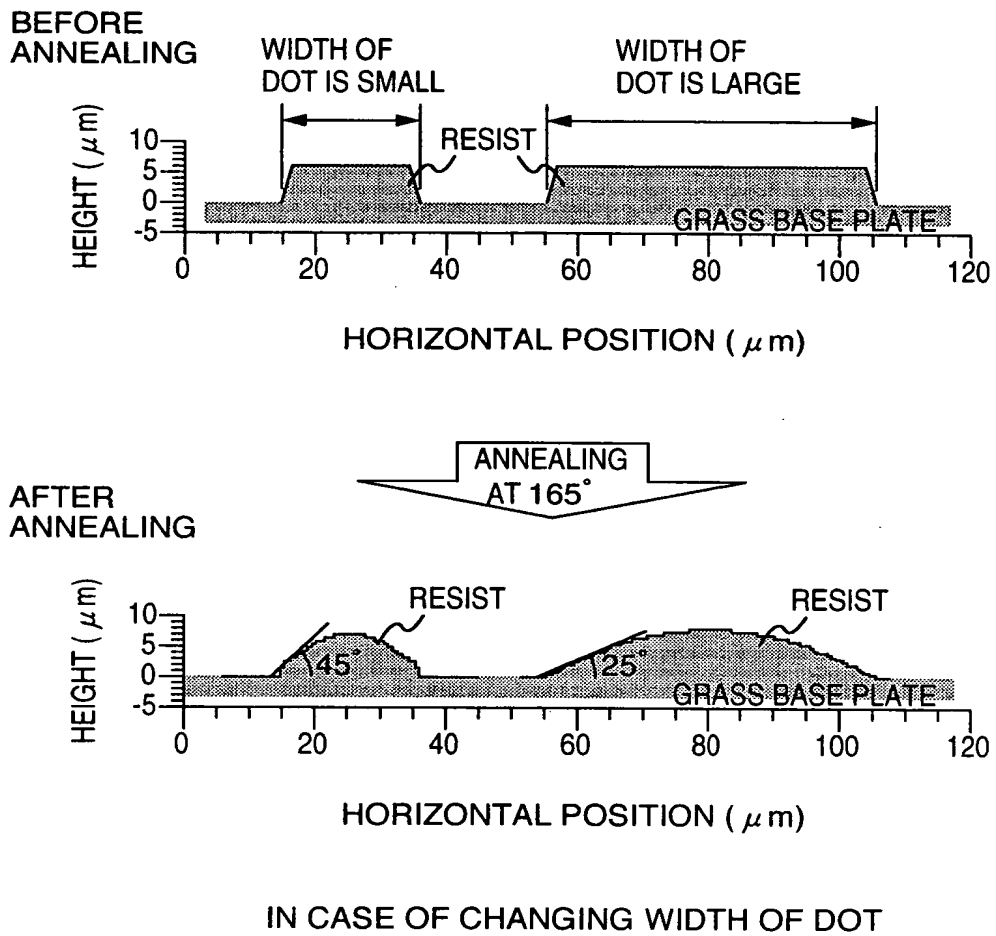
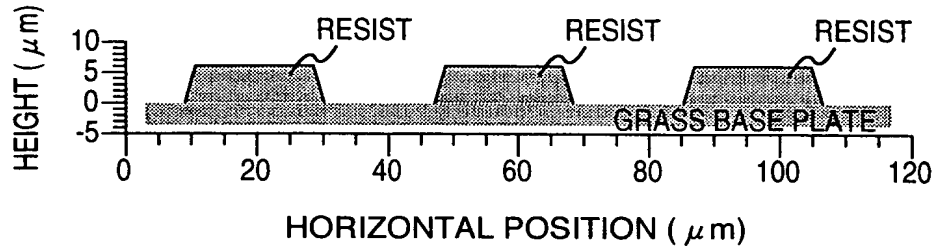
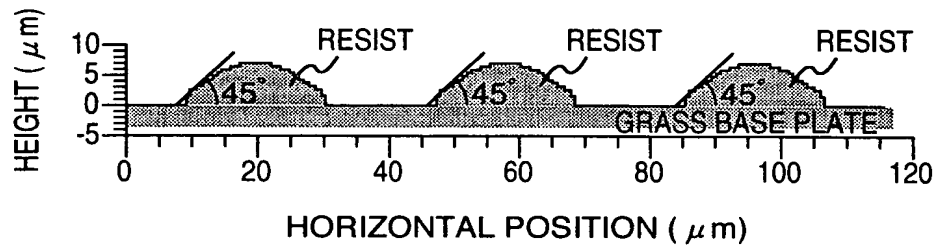


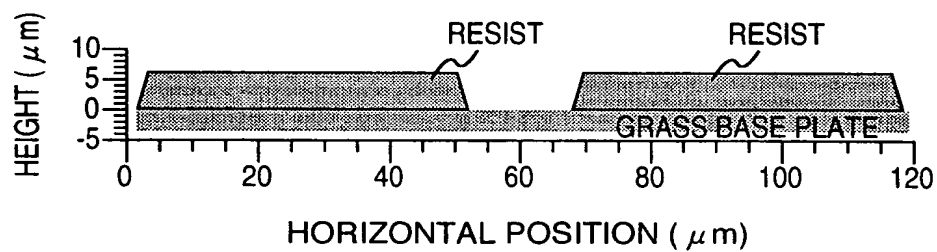
FIG.60

BEFORE  
ANNEALING

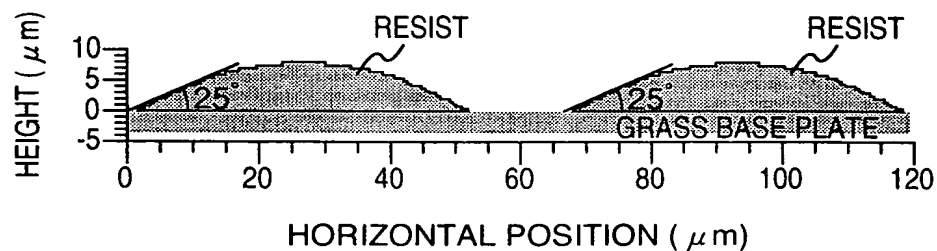
ANNEALING  
AT 165°

AFTER  
ANNEALING

IN CASE THAT AVERAGE DISTANCE BETWEEN DOTS IS SMALL

BEFORE  
ANNEALING

ANNEALING  
AT 165°

AFTER  
ANNEALING

IN CASE THAT AVERAGE DISTANCE BETWEEN DOTS IS LARGE

FIG.61

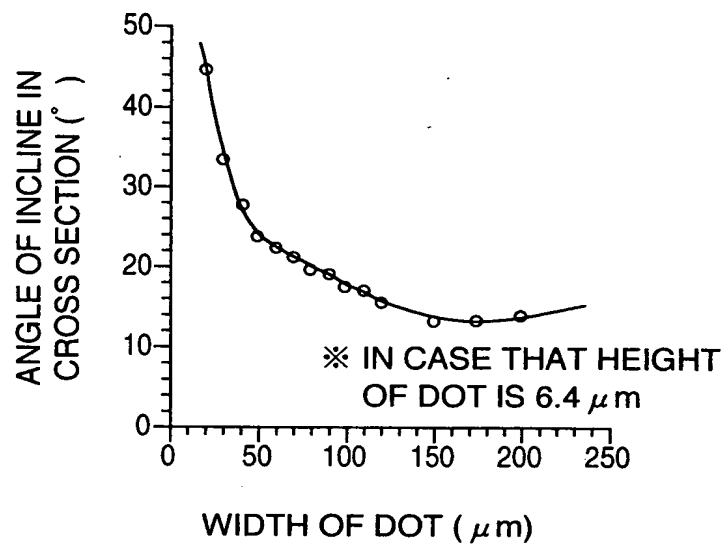


FIG.62

